Ships AND SHIP MODELS

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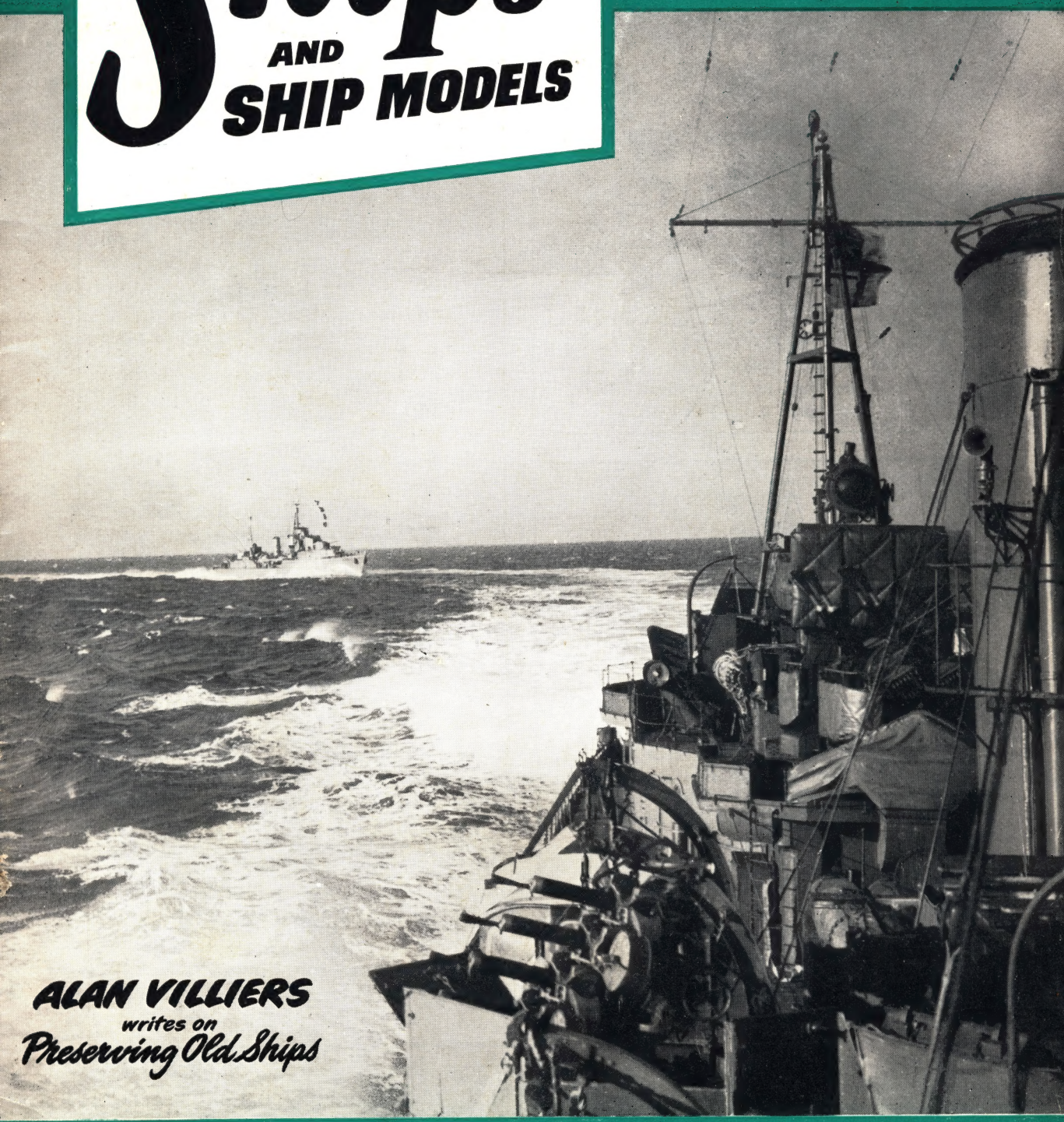
MARCH 1954



ALAN VILLIERS
writes on
Preserving Old Ships

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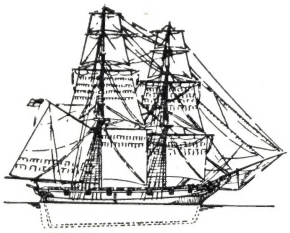

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Ships AND SHIP MODELS

INCORPORATING MODEL SHIPS & POWER BOATS

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THE SHIP'S LOG

THE "M.E." EXHIBITION

The dates for this year's exhibition are from Wednesday, August 18th to Saturday, August 28th. The exhibition will be held as usual in the New Horticultural Hall, Westminster. We are anticipating a much larger entry of ship models that was the case last year. To ensure that models are ready in time for the exhibition, we would stress the need for careful planning on the part of the modelmaker. With an elaborate model entailing, perhaps, years of effort it is surprising how many small items can crop up in the last few weeks, which simply *must* be done. Even with a simpler model things can be overlooked, until it is too late to finish it. For instance, it is surprising how long paint takes to dry when one is working to a tight schedule. Every year models are held over until the following year, because it was found impossible to complete them in time. This stresses the need for careful planning, so that everything is done in the proper order and at the right time.

R.N.V.R. CLUB SHIP "CARRICK"

The story of the ship *Carrick*, headquarters of the Scottish R.N.V.R. was told in our magazine for February 1951. For a number of years Glaswegians and visitors to Glasgow have enjoyed seeing the old ship as she lay at her moorings in the heart of the city hard by Jamaica Bridge. In January last the Clyde Navigation Trust decided that the berthage and use of the ship as a club at Custom House Quay "must cease forthwith." This came as a surprise to the club's 1,200 members. However, the decision was felt to be not unreasonable. The risk of fire is considerable, as the quay alongside which the ship was berthed is covered by a storage shed, and the only access to the ship is by a narrow passage along the edge. The danger inherent in such a situation in the event of fire was shown last September, when a fire at Queen's Dock spread with such rapidity that 120 men working on a tanker alongside found escape by the usual gangways quite impossible, so that they had to clamber down ropes on the far side of the ship to be rescued by small craft. It is unfortunate that this crisis in the affairs of the club should occur in the year in which the R.N.V.R. celebrates its jubilee. An alternative berth on the opposite side of the River at Carlton Place has been offered. This was the position originally offered by the Clyde Trust when the ship was brought up to the City in 1949. The club is having the fullest co-operation from all the authorities concerned in re-berthing the *Carrick*, and an announcement regarding the re-opening of the ship will be made as early as possible.

OUR COVER PICTURE

Our picture this month is taken on a destroyer of the Tribal class such as is shown in Norman Ough's fine drawing on our centre pages. The photograph is taken on the starboard side of the ship almost opposite the forward funnel, looking aft, and is full of interesting detail which should be useful to the modeller in securing realism on his model. The sea is interesting, and the spume blown off the crest of the waves will be noted. A similar type of ship is coming up astern, and its bow wave and the secondary wave system toward the stern will be informative for the builder of scenic water-line models.

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Villiers' old ship "Joseph Conrad"

★ *Written for "Ships and Ship Models" by*

ALAN VILLIERS

Some Preserved Old Ships in the U. S. A.

THERE is a surprising number of old sailing-ships of one sort and another preserved—more or less—in different parts of the world. Here in Britain we have the *Victory*, the *Foudroyant* and—soon, we trust—the clipper *Cutty Sark*. In Baltic ports there are the old frigate *Jylland*, at Copenhagen, the four-masted barque *Pommern* at Mariehamn, the *Viking* at Gothenburg, and the ship *af Chapman* alongside in Stockholm. In the Tagus at Lisbon the old Portuguese East Indiaman *Dom Fernando Y Gloria* is still doing a useful job of work as a training-ship for boys, though she was built 150 years ago. In the United States of America there are half a dozen more of these interesting old ships, ranging from Roald Amundsen's famous *Gjoa* at San Francisco to the frigate *Constitution* in the Boston Navy Yard, and my own old *Joseph Conrad* at the Mystic Seaport which has been reconstructed along the Mystic River by the Connecticut shore.

I have recently been on a visit to America, which included calls on all the old ships I could find. Working sailing-ships are hard to find (apart from the sponge-fishermen of the Bahamas and a few West Indian and Central American trading schooners) though I did have time to see the two last sailing packets in the North Atlantic trade. These are a converted yacht, rigged as a brigantine and known as the *Madalan*, and Captain Bob Bartlett's well-known old Arctic schooner the *Effie M. Morissey*, now bald-headed and known as the *Ernestina*. This pair operates between the port of Providence, Rhode Island, and the Cape Verdes. In October, both were alongside at Providence, and the darkies in the crew of the *Madalan* were sail-making on the quayside while their brigantine—heavily powered, and not very yacht-like now—was taking in cargo and preparing for passengers to St. Vincent and to Brava. A good many Cape Verders are settled in Rhode Island and adjacent southern Massachusetts, descendants of the whalemen who used to be recruited in the islands, and there is still a passenger trade between this corner of America and the Cape Verdes. Since no steamships cover the route and the sailers can be operated on a fairly low capital cost, they survive.

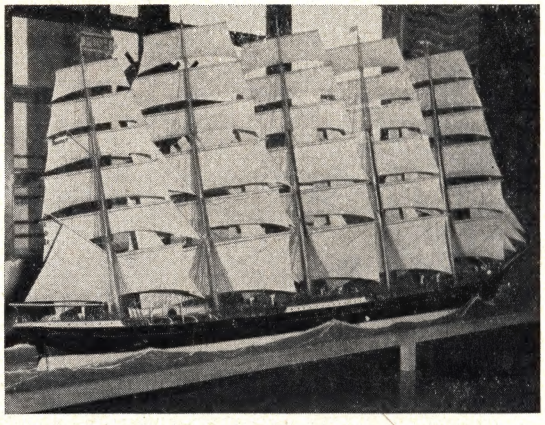
Apart from this pair, a few dude schooners on the Maine coast and round Chesapeake Bay (a "dude" schooner takes paying guests as a kind of holiday crew, as a "dude" ranch lets city dwellers for a price, pretend to be cowboys), the Coast Guards' training barque *Eagle*, a few big yachts, and Irving Johnson's stays'l tops'l schooner *Yankee*, one looks in vain for sea-going sail in American waters in these days. But there is a lively alertness on the subject of preserving at least some relics from the sailing past. The last of the great American clippers—the wonderful *Glory of the Seas*—was burned for her copper fastenings over 20 years ago, and the full-rigged ship *Benjamin F. Packard* was written off and destroyed after a brief life as a sort of exhibition and restaurant at a Coney Island place known as Playland in Rye, close by New York. But the old Yankee whaler *Charles W. Morgan* is carefully preserved, at Mystic ; the *Constitution* has been rebuilt and rerigged ; the *Constellation* is by no means written off though in poor shape at the moment (I heard there were moves to have her towed to Baltimore or to San Francisco, for both ports wanted her) ; the old three-masted schooner *J. T. Wing* is hauled out and preserved in a park near the Lakes at Detroit ; and there is a move to refit and keep the full-rigger *Pacific Queen* (once a good Scots Cape Horner and later a unit in the Alaska Packers' fleet) as an adjunct of the new Maritime Museum near the Fishermen's Wharf at San Francisco. The old U.S.S. *Nantucket*, for many years school-ship for the maritime training school of the state of Massachusetts, is alongside at permanent moorings beside the Merchant Marine Academy at King's Point, on Long Island, where she is known as the *Emery Rice* ; and the old *Euterpe* is still something of a museum-ship at San Diego. I did not have the opportunity to visit San Diego, but I was reliably informed that the old ship (which like the *Pacific Queen*, also served for many years in the Alaska Packers' square-rigger salmon-packing fleet out of San Francisco) was not now in the best of shape.

I saw the *Gjoa*, and I paid a special visit to Mystic to watch the restoration going on aboard the *C. W. Morgan* and to have a look at the good old *Joseph*

Conrad. The *Gjoa*—which is the ship Amundsen took through the North-West Passage—has been rebuilt in recent years and appears in excellent condition. She is a pole-masted sloop, very sturdy and solidly built but incredibily small for the great job she did. A three-bladed fixed propeller protrudes from her sternpost nowadays, though I doubt such a thing would have been of much use to her in the ice. She is hauled out high and dry across a wide road which skirts the Pacific just beyond the Golden Gate, and she stands upright in a kind of natural cradle among the turf and rocks. A stream of large American automobiles flows past, and the surf of the Pacific rolls in below the sea wall opposite. Round her the trees and the stunted shrubs lean from the westerly winds. She stands inside a high iron fence with barbed wire as a further protection. There is one locked gate, for she is unguarded, and vandals would soon pull her to pieces. A notice on the fence states that she was built in 1872, is 70 ft. long by 20 ft. beam, and registers 47 tons. She sailed from Oslo on June 16th, 1903—I read—and passed through the North-West Passage in the summer of 1905, arriving at San Francisco in October 1906. She was presented to the Golden Gate Park commissioners by Amundsen himself and a group of Pacific Coast Norwegians, in 1909, and rebuilt sufficiently to restore her completely 40 years later.

The old barrel windlass, the dolly winch on the deck, the lanyard rigging and the staunch, beamy strength of her bear witness of Amundsen's ability to choose the right ship for a tough job. The canvas protection for her lookout barrel was slightly adrift the day I was out there, and some of the ratlines required attention. But she looked well, and she ought to last for years. She is ashore by the north-western end of the Golden Gate Park, an easy bus ride from Market Street : but you have to look for her for the stumpy pole mast is easily lost among the trees and the one square yard does not show up very well. A thousand automobiles an hour stream past the dark green hull without, I dare say, one person in a hundred ever seeing it.

Girl Scouts training in the "Joseph Conrad" at Mystic

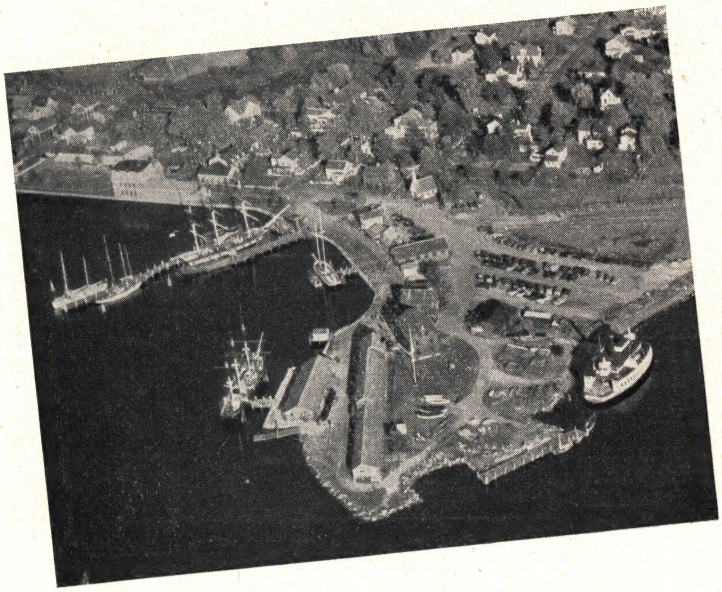


Model of the five-masted full-rigged ship "Preussen" in the San Francisco maritime museum

But they cannot pass the *Pacific Queen* without seeing her. There was one thing common to all those big Cape Horners : they stood out along any waterfront they cared to grace, and you could not ignore them. The *Pacific Queen* is now at anchor off Saucalito (where so many of her sisters lay in their time), in idleness after a period as a sort of show-ship in the season, and background for many a Hollywood alleged seafaring film. The showman who bought her died about a year ago and, as I heard the story, she is currently under offer for preservation as a typical Limejuice Cape Horner. She is not in such bad shape, though of course she needs a lot doing to her. The idea is to secure her alongside in front of San Francisco's new maritime museum, where she would be a great attraction and probably pay for herself by a small admission charge. From all accounts, she was a considerable success as a show-ship, Hollywood style, with wax figures strung up at a yardarm or two and every kind of marine exhibit—real and imaginary—strewn about the 'tween decks and the lower hold. But if she is taken over by the Maritime Museum, she will be run properly and the fake exhibits will go.

Incidentally I must say that I was very favourably impressed with that new museum in San Francisco. It occupies a fine building put up at considerable expense under one of Mr. Roosevelt's schemes for providing employment during the great slump, and it is ideal both in situation and design for its present purpose. Photographs, models, relics, old logs tell in part San Francisco's maritime story, in which British ships played so large a part. Director Karl Kortum is himself a sailing-ship sailor though still a young man. He was in the barque *Kaiulani* when she was rigged and sent to sea during the Second World War, and a group of his old shipmates from that shapely barque help to keep the musuem going.

The exhibit which appealed to me most had nothing to do with San Francisco's maritime history, as far as I know. It was an exceptionally well-made sailing model of that wonderful five-masted full-rigger, the Laeisz nitrate clipper *Preussen*, which was

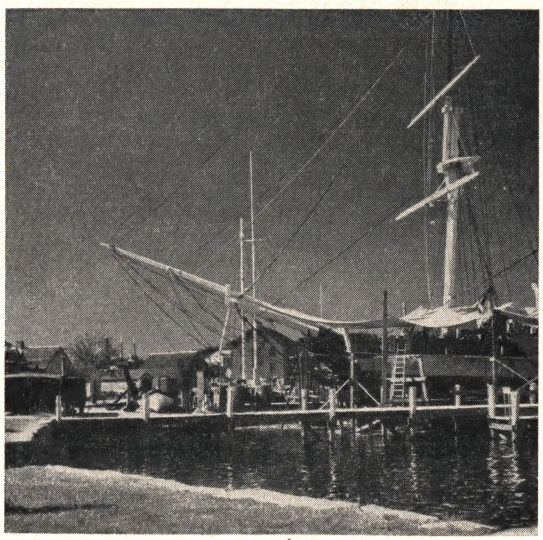


Mystic Seaport photographs by Louis S. Martell

The re-constructed old-time sailing ship port on the Mystic River, Connecticut. In the background by the pier will be seen the old whaler "Charles W. Morgan" and lying alongside the jetty is the "Joseph Conrad." The waterfront street with the old workshops occupy the centre of the picture

certainly in many ways the most successful Cape Horn sailing-ship there ever was. The model is complete in every respect and shows the big ship sailing in the trade winds. It is big enough to carry lifelike models of the watch on deck at various jobs fore and aft and in the rigging, just as they would have been. It is the only model I know which shows the crew at their work in a convincing way. The sailing is convincing, too. The great ship has life, and grace, and speed through the water. The *Preussen* model was made by a local mariner of Scandinavian birth, from the ship's plans acquired in Germany. (There are fairly good model-builders' plans available of the *Preussen.*) The model, I was told, cost some $5,000 to make, and I can well believe it. Indeed I would say it was cheap at the price, for it is in many ways the best model of such a ship I have ever seen.

"Charles W. Morgan" the last sailing whaler



Still speaking of models, there is another beauty which every maritime student should go out of his way to visit if ever he gets the chance, and that is the outsize model of the whaling barque *Lagoda*, at New Bedford. This is so large that a special building had to be erected to house it. It is a scale model of a typical New Bedford whaleship of a century ago, and it is large enough to go aboard. It is shown just as it would have been on a passage to the whaling grounds, under all plain sail (the curator told me they had often to vacuum-clean the sails to get the dust from them). Everything works just as it used to do. You can go below and examine the accommodation, though you have to watch your head. The *Lagoda* model, I believe, is the largest ever made, and certainly must rate among the most satisfactory for giving a real idea of how the square-rigger really looked and worked.

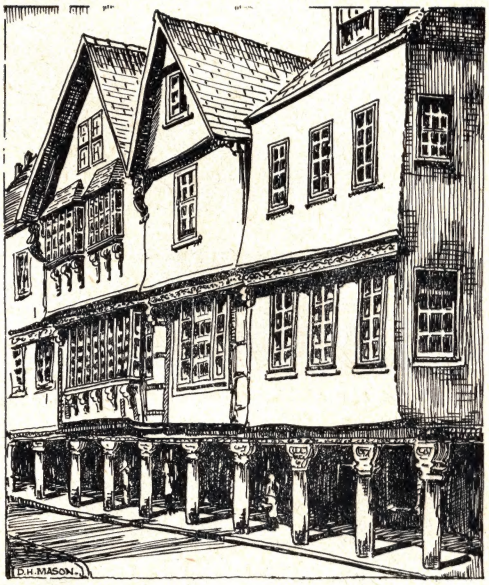
But even the *Lagoda* pales beside the real thing. The *Charles W. Morgan* is just that—the last real sailing whale-ship, anywhere. She is a wooden full-rigger with a long bowsprit and jib-boom, and single tops'ls in the old style. She is hauled up on the shingle beside a pier on the Mystic River, and she ought to last the century out without difficulty. She is preserved as part of the project being brought to fruition by the Marine Historical Association of Mystic, in which the sailing-ship historian Carl Cutler is a leading figure. Mystic was once a famous New England seaport, building its own clippers and sending them to the ends of the earth. No Mystic clippers survive now, but the old seaport has been rebuilt and the *Morgan* and the *Conrad* berthed there to provide both the authentic atmosphere and real museum pieces in their own rights.

The whaler was acquired from New Bedford some years ago, and the *Conrad* was a gift from the State after her wartime training activities were ended. After I had sold the ship to Mr. Huntingdon Hartford, he gave her to the United States Coast Guard which ran her as a training ship during the Second

(*Continued on page* 95)

A Maritime Museum

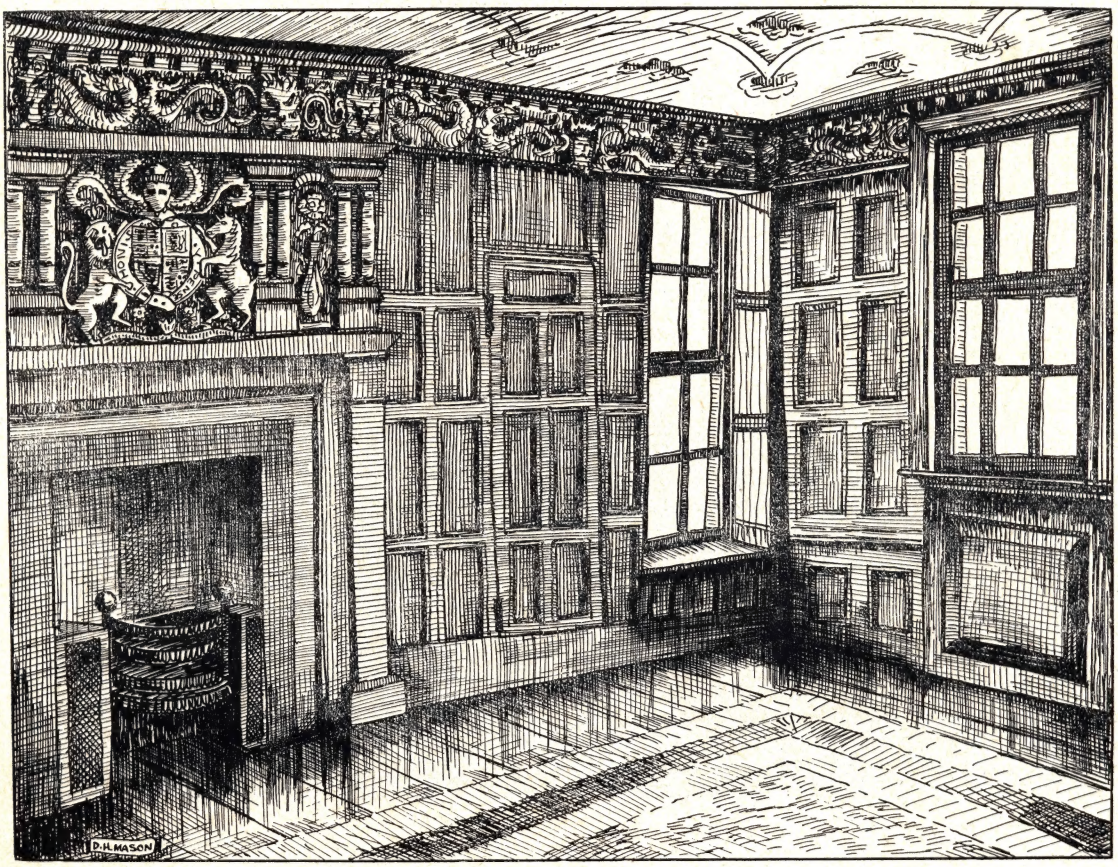
FOR DARTMOUTH

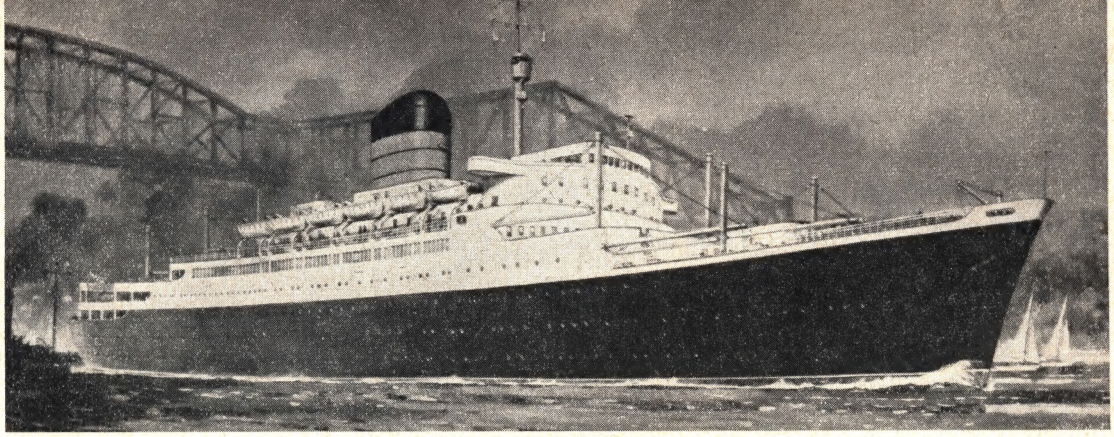


Those who are familiar with Dartmouth will be pleased that the lovely row of old houses known as The Butterwalk, and which was damaged by bombs during the war, is being restored by the Corporation. Shiplovers will be still more pleased that one of them is being converted into a historic and maritime museum. The present museum, which was set up in 1949, by Mr. Percy Russell F.S.A. and Mr. A. T. Wyndham-Payne and a number of other voluntary helpers, will be transferred to the new premises. These comprise the first floor of number six. The approach is by the original newel stair and the front room is one of great splendour, being handsomely panelled and having a fine plaster ceiling. The display of the Royal Arms over the fireplace commemorates the visit of Charles the Second in his new yacht Cleveland *in* 1671.

The Butterwalk was built in 1635-1640, *hard by the old quay so well known to Gilbert, Davis, Raleigh and other early navigators.*

The rooms are being fitted up with the idea of exhibiting ship models additional to those actually owned by, or on permanent loan to the museum. The honorary curator, Mr. Percy Russell, hopes to interest model makers in his maritime section, as he feels that the historic part of Dartmouth is so compact and neat that it is an ideal " miniature " suitable for the display of ship models. The town is visited by tens of thousands of people every year, particularly from London and the Midlands, who base their holidays on the Torbay resorts. The curator would be most grateful to hear from any ship model maker who would be willing to send any ship model on loan for the season, or possibly for longer periods.





The new Cunard Liner "Saxonia" which has accommodation for 125 first and 800 tourist class passengers. A ship 608 ft. in length and 80 ft. in beam, she will be propelled by D.R. geared turbines

SHIPS *in the news*

LAST year was remarkable for the number of foreign passenger liners which took up service on the North Atlantic, ships owned in France, Greece, Italy, Spain, and Sweden. This year has already seen two notable events, the launching of the first British transatlantic passenger liner to be built this decade—the last was the *Caronia* which entered service in January 1949—and the reappearance of the German flag in this trade.

The *Saxonia*, the first of the Cunard Line's new 22,000 ton vessels was launched at John Brown's Clydebank shipyard on Feb. 17th, after having been named by Lady Churchill.

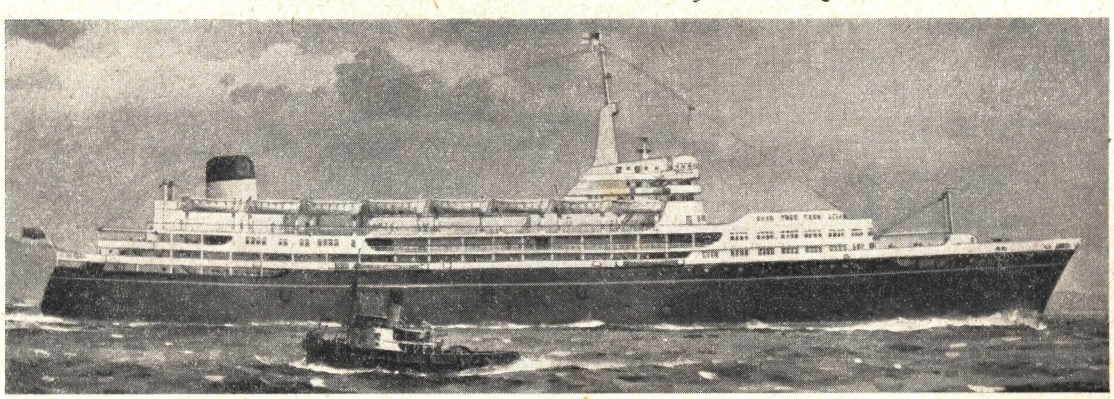
A 20 knot ship designed for service between the U.K. and Montreal and Quebec, she is the first really large passenger liner to be built for the Canadian run by any firm for many years, the last being the Cunard "A" class, six of which came out during the years 1922-25. The first of three similar sized ships which the Cunard Line has on order, the *Saxonia* will be followed later in the year by the *Ivernia*. A longer interval will elapse before the launching of the last one, which was not ordered until late in 1953.

A study of the artist's impression of the ship shows that the external layout is basically similar to that of the larger *Caronia*. Both have a long combined bridge deck and forecastle, extending almost to the stern, where the hull plating drops a strake. Above, the promenade deck is stepped well back on the bridge deck, enabling one of the forward hatches to be set on this higher level.

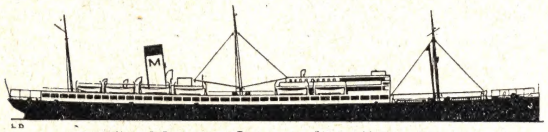
Unlike previous Cunarders the funnel is vertical and has a domed top. The thick pole mast is also an innovation as far as this Line is concerned. Hitherto the only passenger liner in this fleet to have a mast amidships has been the *Caronia*, which has a very tall one of the tripod type. In the new ships however, height restrictions are imposed by the need to pass under the Quebec Bridge.

Following the completion of their new *Kungsholm* the Swedish American Line have transferred their

The new Shaw Savill liner which is to be christened by H.M. The Queen



19,000 ton *Gripsholm* to a German subsidiary, named the Bremen-Amerika Linie G.m.b.H. which is operating her in the joint transatlantic service with the North German Lloyd. The ship, which now flies the German flag, made her first sailing from Bremerhaven to New York on February 1st. The German flag thus reappears on the North Atlantic passenger trade after an interval of fifteen years. Enquiring of Hapag/Lloyd officials of their plans for the future, I was told that they are not considering the building of large passenger liners, chartering being more economical. Instead they propose to concentrate on the building of fast cargo liners carrying either a few or a relatively modest number of passengers. Six or seven such ships may be built for the cost of one really large one and offer a much better investment.



The Matson 9,801 ton liner "Maui"

A new name to appear in passenger sailing lists is the *Seven Seas*. This interesting 11,000 ton steamer is an emigrant carrier owned by the Caribbean Land & Shipping Corporation, of Cristobal and was known until a few months ago as the *Nelly*. She was reconstructed during the winter at the N.D.L. yard at Bremerhaven after her owners had decided to give her more elaborate passenger accommodation, sprinkler system, etc.

The *Seven Seas*, which was due to be ready in February, has accommodation for about 1,250 passengers. Like her sister *Anna Salen*, which is owned by an associate company, the vessel is American built and was designed as a C3 type cargo ship. Originally known as the *Mormacmail*, she served during the war as the Escort Carrier *Long Island* before being converted for her present work.

The new 20,000 ton Shaw Savill liner now building by Harland & Wolff at Belfast is to be launched by H.M. The Queen on August 17th. This ship will be a remarkable one, if only for the fact that she is the largest liner yet built and the first British one, to have her engines aft.

Designed for service to Australia and New Zealand via the Cape, the new liner will be driven by geared turbines giving a speed of over 20 knots, enabling her to make four round trips a year. No cargo will be carried, and there will be accommodation for about 1,200 one-class passengers, all of whom will have air-conditioned cabins. Denny-Brown stabilisers will be fitted.

The main hull dimensions are length overall : 600 ft., breadth 78 ft., depth 45 ft. 3 in. Thanks to the placing of engines aft the valuable midship space will not be broken up by the otherwise inevitable smoke uptakes, air intakes and engine room skylight. Thus a much better arrangement of public rooms is made possible.

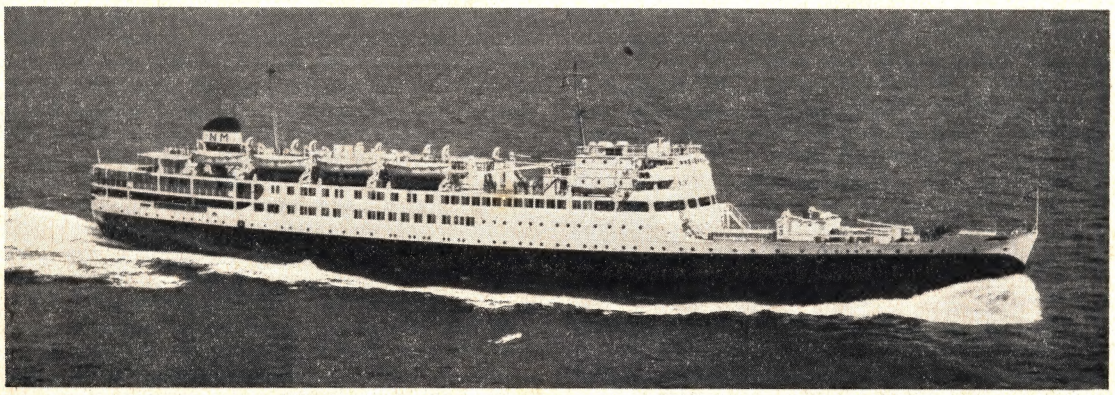
Although it is the first time that a British liner has had her engines so placed, some have been built and owned abroad. The Matson Line, in particular, favoured this arrangement for their ships, which were all designed for the Philippines-U.S. Pacific Coast trade.

The series started soon after the turn of the century; later and better known units being the *Manoa*, 6,805 tons gross and the *Matsonia*, 9,402 tons, both built in 1913. The design reached its climax in 1917 with the completion of the 9,801 ton *Maui*. This ship, driven by twin screws and S.R. geared turbines had a speed of some 15½ knots. On dimensions 484 ft. × 58 ft. × 39.7 ft., she had a deadweight capacity of 9,950 tons, as well as accommodation for over 500 passengers in first and third classes. All these vessels were of generally the same layout, and like the *Maui* illustrated, had a long low superstructure, the raked funnel being set between the main and mizzen masts.

A better and more up-to-date example of the engines-aft technique is provided by the French owned *El Djezair*. This ship is of similar speed to the new Shaw Savill liner, namely 20 knots, but is

(*Continued on page 112*)

The French liner "El Djezair" owned by the Compagne de Nav. Mixte. Marseille



Photo—Rene Simon, Marseille

Master in Sail

by

Captain James S. Learmont

Synopsis III

If life was hard in those early days of sail, young Learmont found that industry and enthusiasm paid their own dividends. Starting his sea career at the tender age of twelve, the boy from Port William used all his time aboard to further his knowledge of navigation, with the result that at an early age he had qualified for his mate's ticket, and after serving in various ships sat for and passed his master's examination. In the meantime he had married, and as he set off for his first voyage in command, he was fully aware of his new responsibilities.

ON my arrival home my father said, " Boy, you have not your time in for mate." " I'm fourteen days short," I said. He then arranged that I should go mate with him and by doing this for one month in the Home Trade I would not need to undertake another voyage deep-water for the short time necessary. I really enjoyed re-visiting the ports I had known so well as a boy.

On completion of this month I went to school in London, and after a few weeks sat for my first mate's certificate. On completion of my navigation papers I was sent into the chief examiner's room for seamanship. Captain Steele was a nice old gentleman. Bidding me to be seated he asked " Where did you pass your examination for second mate, Mr. Learmont ? " " In this room before you, sir." " How long ago ? " " About fourteen months ago sir." He opened a drawer, pulled out his diary and said, " Yes, you passed with great credit. Let me see you doing the same today." On giving me my " blue paper," he shook hands with me heartily, saying " You have done well."

In less than two days I was first mate of the barque *St. Monan* owned by Messrs. R. J. Swyny of Liverpool, loading general cargo for Melbourne. She was in charge of Captain McNeill the Marine Superintendent. Later Captain J. Finlay took over from him. He was transferred to the Company's ship *County of Clare* loading in the S.W. India Dock for Algoa Bay, and asked me to go with him.

The *County of Clare* was an iron ship of 1,499 tons net reg. with a deadweight of about 2,500 tons. She was a nice little ship, with single topgallant sails and a main skysail, but could not sail even with John Finlay, who knew how to sail a ship.

Soon after clearing the bay the Captain ordered that there should be no afternoon watch below for the crew. That was most unusual in British ships and was much resented ; I did not like it but had to carry out orders. Friction with the crew was an everyday occurence and we got less work out of them than could have been obtained under a watch and watch system.

We as officers were worse off than the A.B.s, who could get a sleep during their watch on deck at night. The food was generally bad, the bare Board of Trade allowance for officers and men, but the master, while taking his meals with his mates, had special food. I never disliked anything so much. Had he eaten the same food as ourselves it would not have been so bad. Captain Finlay was, however, a sailor to his finger tips, he could sail a ship and was well grounded in getting the best out of every sail. I never forgot his advice ; to carry sail with an increasing wind was foolish ; failure to make sail after you had got the full weight of it was equally foolish. We arrived at Algoa Bay, now better known as Port Elizabeth, after a passage of seventy-five days. After mooring we started to discharge our general cargo, which was a very difficult job as we were practically in the open sea. Captain Finlay spent most of his time on shore or with friends on other ships.

In due course we got our cargo discharged, and sailed for New York in ballast. We had a very fine passage to Cape Hatteras, South of New York, through the S.E. Trades and away with the N.E.

Reproduced from a painting by John Grier

The "Brenhilda" Captain Learmont's first command

Trades, but we got confirmation of Dana's warning.

"When the Bermudas you do pass
You must beware of Hatteras"

for there we encountered very heavy weather. We had to heave to under one lower topsail, as the ship being in ballast was very tender. This delay prolonged our passage and we arrived at New York 56 days out. As soon as we berthed at the pier in East river the whole of the A.B.s, with the exception of one old Norwegian, deserted. As there was a good deal of weed on the ship's bottom we went into dry dock at Brooklyn after getting our ballast out. On completion of the painting we went back to the pier to load, where we lay for about six weeks.

I did not go up into the city but spent my evenings around the wharves admiring the beautiful ships of Maine loading for California or discharging cargoes from China and Japan. Aloft they were really in fine order, their masts and yards being wooden were all scraped and varnished. As it was impossible to get a spar long enough, their lower masts were built in segments and clamped by iron bands. On deck everything was white and spotlessly clean. With their nicely flared bows and elliptic sterns they were a credit to their designers, builders and crew.

Our cargo was general, case oil, farm machinery and "Yankee Notions" which included sewing machines, bicycles, clothes pegs, and everything you would expect to find in a sixpenny store. In due course the crew joined us ; they were coloured men and I particularly admired them because they insisted on squaring up with the coloured boarding-house master on the quay before joining the ship, instead of being bundled on board under the influence of liquor, as was too often the case with white men.

We sailed from New York in July 1897. We had an uneventful run down through the Trades, but after rounding the Cape of Good Hope we encountered a cyclone in the vicinity of Mauritius. Warned by the barometer, Captain Finlay had shortened sail down to bare poles. When the full might of the cyclone struck us, the ship heeled until the lee rail was under water. One had to hold on hard to avoid being blown away. The Captain whilst clinging to the mizzen rigging had his long oilskin coat first split up the back and then torn away by the force of the wind. The cyclone passed quickly without our ship suffering any damage, so we made sail again.

Captain Finlay could drive ; the *County of Clare* was the first iron ship that he had ever sailed in.

He had sailed in the schooners, out of Arklow, in the western ocean trade, and had only been once across the Equator before, when he made the voyage to the River Plate in the *Portinscale*, a small composite barque. He never went aloft, seldom left the poop, but he had a great eye for strength with neatness, as became an Arklow man. In my coasting days it was an accepted fact that the vessels from Arklow were outstanding. There was a definite limit to driving a wooden vessel. First the spars and then the hull would quickly show definite signs of strain if driven hard, very different from an iron ship with iron masts and lower yards. Now that Captain Finlay had an iron ship he thought she would stand anything. One morning at 4 a.m. I came on deck to find the ship staggering under too much canvas, and said to the second mate, " What are you trying to do ? " He answered " Yes, I went down to the ' old man ' and asked him if I could take the main topgallant sail in. He threw his boot at me and told me to get to H—— out of his room." I didn't ask him but clewed the topgallant sail up and furled it and heard no more about it.

We passed through Bass Strait that divides Tasmania from Australia and reached Sydney after a passage of one hundred and twenty-four days, anchoring off Garden Island.

We sailed early in January for Liverpool, where we arrived, after an uneventful passage, on May 4th, 1898.

As soon as I was paid off I went down to London and in a few weeks obtained my master's certificate. I then returned to my home for a spot of leave and decided that I would go into steam, but by my meeting Mr. A. Allan, the second mate of the *Norna*, on his arrival from New Zealand, the news got through to Rae's in Liverpool that I was home and had passed for master. On hearing this Captain James Lochead formerly master of the *Norna* and now in Rae's *Brenhilda* went to the owners' office to get my address. I refused the offer by telegram, but my father advised me to accept, as the owners had told him that they would give me a ship as soon as I had made a voyage as mate with a master's certificate. Accordingly I went down to the village post office to send a telegram cancelling my first one. I need not have hurried for Mrs. Black, the old postmistress, said to me, " James, I hav'na sent the ither one. I was just having ma tea and I didna think there wuz any hurry."

In my acceptance I held out for higher pay, namely seven pounds a month instead of the six pounds ten shillings offered, and was very surprised that they agreed.

On July 5th I had married in Liverpool, so now leaving home was a very different thing for me.

We sailed on July 19th for Melbourne with a general cargo. The *Brenhilda* was an iron ship, and had been engaged in the emigrant trade to Australia, and had also carried twenty cabin passengers. She had special 'tween decks for the emigrants, and a large saloon fitted and panelled with bird's eye maple. She was a full-rigged ship, 1,250 tons net register with a deadweight of 1,900 tons, a beautiful model with not a straight plate in her, having been built by Barclay Curle of Glasgow in 1875 on clipper lines.

We had an uneventful and rather lengthy passage of one hundred and fifteen days to Melbourne. The master was most careful, always shortening sail when we had a breeze of wind.

I did not like Melbourne, first the smell of the river where we were discharging, then the " Brickyarders," hot, dusty northerly winds which were followed without warning by cold icy winds from the southward, known in Australia as " Southerly Busters."

Towards the end of April we sailed north to Junin in ballast, arriving early in May after a passage of seven days. Junin is a small nitrate port about forty miles north of Iquique. We sailed on May 20th, " Falmouth for Orders." The passage home was uneventful and we arrived at Falmouth at the end of August, receiving orders for Hull, where we arrived on September 1st, 1899. I left the ship in Hull and went to London for an interview with the Castle Line, for I still wished to go in steam.

I was appointed a junior officer in the Castle Line, and after a spell on the staff at the company's berth in the East India Dock, I was ordered to join the s.s. *Pembroke Castle*. I made one voyage in her to the Cape and back, and was sent to the s.s. *Kinfauns Castle*.

I became a bit tired of steam but thought that I must persevere as so many were saying that sail was finished and steam was the coming thing. I could see that six pounds a month, that is thirty shillings a week, was no good to me, so on my return to London I handed in my resignation to the Marine Superintendent. He was amazed that anyone should leave the Castle Line, especially myself, three years as a mate in sail and only twenty-four years of age, saying I had a splendid future ahead of me. I was determined that I would get out in time, as the chief officer of the *Kinfauns Castle*, the commodore ship, had been in the company thirty-five years and when he would get command it would be one of the cargo ships on the New York-Cape route.

I obtained a berth in the Atlantic Transport Line, and after a couple of trips to New York in the s.s. *Manitou* I was promoted to third officer in the s.s. *Manhattan*, engaged as a troopship in the South African war.

Then one day I met Captain Ross Jenkins from my village, Marine Superintendent for Messrs. Nicholson, McGill, who owned several sailing ships. As soon as I met him he said, " Aren't you tired of sailing as fourth officer in these steamers ? Will you go in sail ? " " Not as a mate," was my reply. " Who is asking you to go as mate ? If you want a ship I will see that you get command of one of our vessels. Go to Liverpool and call at our office. I will tell them you are coming."

I went to Liverpool, called as directed, and it was almost arranged that I would take the four-masted topsail schooner *Rimac*. After my interview I went round to the offices of Messrs. J. and J. Rae and Co. to call on them. Captain John Rae was pleased to see me and asked what I was doing. I told him and he said, " Have you signed the agreement ? " " No."

" Well, you are not going with Nicholson's. We have more ships, we can pay you more, and we want a master for the *Brenhilda*, now on passage to Rotterdam." I readily agreed. To put in the time I made a couple of trips to the West Indies and New Orleans as third officer of the Leyland Line s.s. *Jamaican*.

On arrival at London in April, 1902, I had a letter saying that the *Brenhilda* has arrived in the Tyne and that I was wanted, so I left the *Jamaican*, and the six pounds a month, to start again in sail. On going to North Shields I found that the master had been relieved and one of the partners, Captain James Rae, was acting as " ship's husband." Going aboard I met the senior apprentice who had been with me when I was mate of the *Brenhilda* ; he was a cousin of the owners, another James Rae. In his quiet way of speaking he asked, " Where's your steamer, sir? " I replied, " I am not in a steamer." " Well, what are you doing here? " I told him that I was the new master. On my reply he asked for permission to go ashore for a few minutes. It seems that all the boys had asked to be put on other ships of the fleet on account of conditions on board during the previous voyage. He went ashore to send a wire cancelling his application for a transfer. On his return he went below to the other apprentices who were clearing up the hold, saying " Boys, my old mate has come to take this ship. I have been ashore to cancel my application, and I advise you to do the same." This was and will always be to me the greatest compliment that I ever received.

Captain James Rae went when I took over. The *Brenhilda* had been ashore at Lobos de Tierra, through using a channel that had not been surveyed, and had damage to her forefoot and plating. Repairs were completed after considerable delay as the owner insisted, as was his right, on having the damaged parts repaired with plates of the same thickness as the original ones which were unusually heavy.

From the dry dock we moved into Tyne Dock where the ship, chartered by a Liverpool firm, was to load a general cargo for Valparaiso. In addition to the loading, there were plenty of odd jobs, so I started to collect my crew as suitable men applied, mostly young Scandinavians.

In due course we were loaded and ready for sea, and my mate and second mate came from Liverpool to join the ship. On May 9th, 1902, we sailed from Tyne Dock bound for Valparaiso. Once clear of the Tyne piers, and the pilot having been dropped into his waiting coble, the tug signalled us to cast off the towrope. There was little or no wind and a considerable degree of haze. With steamers blowing fog signals all around we made sail and cast off the tug. My first voyage in command had started.

(To be continued)

MASTER IN SAIL
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PERCIVAL MARSHALL · LONDON, W.I.

Topical Digest

By courtesy of " Everybody's ",

Don't just stand there—find the directions

Psst ! ! Want a Yacht ?

The former Royal Yacht Mahroussa *has been offered for sale at a reported price of* £2,100,000 *by Egypt's Revolutionary Command Council.*

This is the elaborately appointed vessel in which ex-King Farouk and his family sailed into exile after the uprising which resulted in Eygpt's present Government.

The Mahroussa, *which is berthed at Alexandria, is open to the public before being sent abroad for viewing by prospective buyers.*

* * *

Competition Ahead ?

It is noted that an improvement is to be expected in the Japanese shipbuilding industry. The Government has authorised the building of 25 *new cargo ships of* 221,370 *tons. Of these* 14 *are to have a speed of* 15 *knots or more. This programme comes under criticism owing to the lack of provision for ocean passenger craft.*

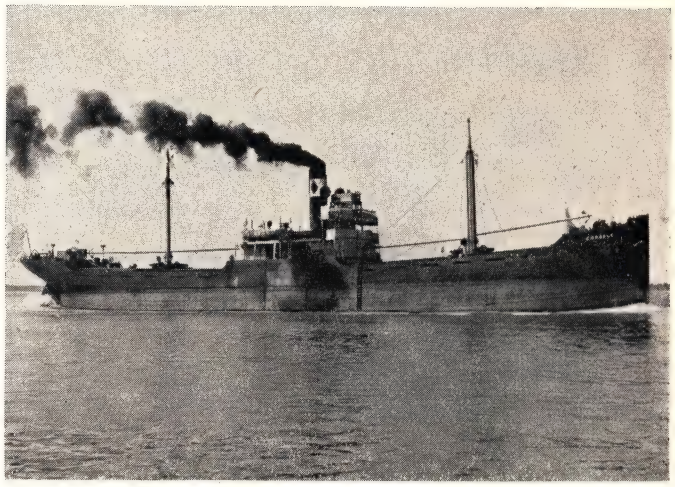
* * *

Soviet Trawler Deal

On February 4th, a British shipbuilder, Mr. Harry Dowsett signed a contract with Soviet Russia for his Company, Brooke Marine Ltd., to build 20 *fishing trawlers at a cost of over* £16,000,000.

This is believed to be the biggest single order of its kind ever to be placed, and the ships, designed for Arctic fishing will provide employment for an additional 600 *shipyard workers at Lowestoft.*

Negotiations are in progress for further orders for tankers, cargo ships and other vessels.



(3) THE WILLIAM CORY & SON LINE

BY LAURENCE DUNN

MESSRS. Wm. Cory & Son Ltd., with their famous black diamond device possess what is probably the most appropriate and successful house funnel design ever conceived. The two dozen sea-going ships which bear this emblem are primarily engaged in the carriage of coal from North East Coast ports to the Thames. They also lift a much lesser amount from South Wales, as well as making an occasional entry into the short seas trades.

The fleet, though not possessing the glamour of passenger tonnage, is a very fine one and well rewarding of study. These notes are intended to present the fleet as it is today and therefore, to avoid confusion, little or no reference is made to vessels that are no longer in service.

The ships fall into two main size groups—the smaller ones which have a deadweight of 2,400/2,700 tons and the " M " class, which can lift over 4,000 tons of coal. There are also two intermediate size vessels of 3,400/3,550 tons d.w., these being the *Cordale* and *Corchester*. Excepting two new motorships, all are driven by steam reciprocating engines.

Considered from the recognition aspect the fleet may be subdivided as follows :

(1) Ships with engines amidships
(2) Ships with engines aft and bridge amidships } counter stern

(3) Ships with engines aft and bridge amidships
(4) Ships with engines and bridge aft } cruiser stern

ENGINES AMIDSHIPS, COUNTER STERN

The ships in this group number four in all :

Corchester	**1927**	**2,374**	**gross**
Corbridge	**1928**	**1,707**	**„**
Corminster	**1928**	**1,703**	**„**
Cordale	**1925**	**2,143**	**„**

These are all of the conventional four hatch layout, with two forward and two aft of the superstructure. The first three ships are Austin built and are of the raised quarter deck type, this deck extending from bridge to stern. The *Corchester*, 3,550 tons d.w., is easy to recognise, having a sloping backed deckhouse at the stern. The sister-ships *Corbridge* and *Corminster*, both of 2,450 tons

Top page 92 : S.S. Cordale .. 1925
Bottom ,, 92 : S.S. Corglen .. 1929
Left : M.V. Corbrae 1952
Below : S.S. Corfleet 1934
Bottom : S.S. Corfield 1932

Photos by W. H. Brown and L. Dunn

d.w., have a tall poop, one that is built on the quarter deck and is thus several feet higher than the fo'c'sle.

The *Cordale*, 3,400 tons d.w., differs in being of the once very popular three island type and is also one of the few ships in the fleet which were not built for the company. Constructed by Smith's Dock Co. Ltd., as the *Horsley* for the now extinct Hartley Steamship Co. Ltd., of Newcastle, she passed into Cory ownership in 1937.

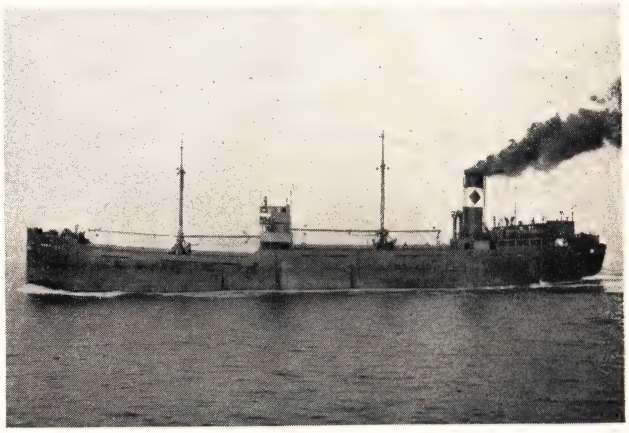
ENGINES AFT, COUNTER STERN

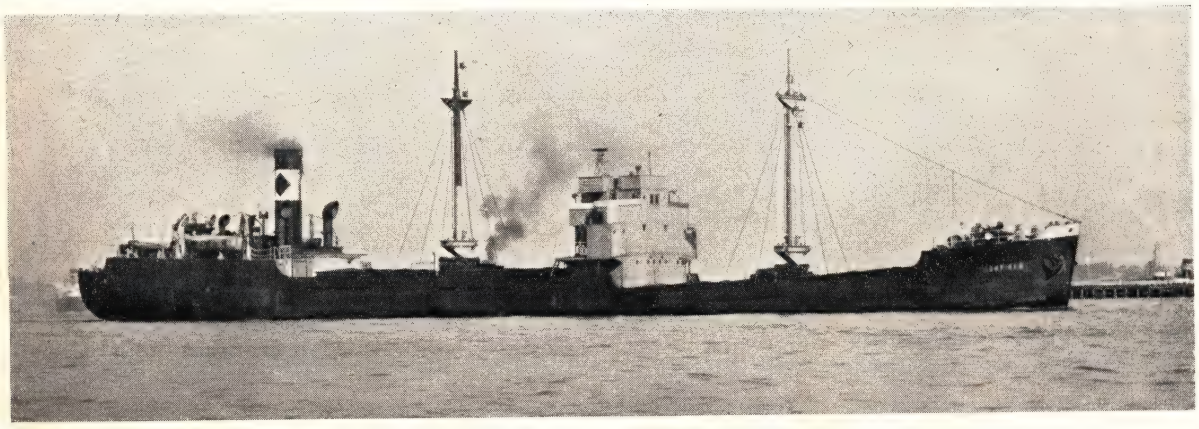
Corglen 1929 2,822 gross

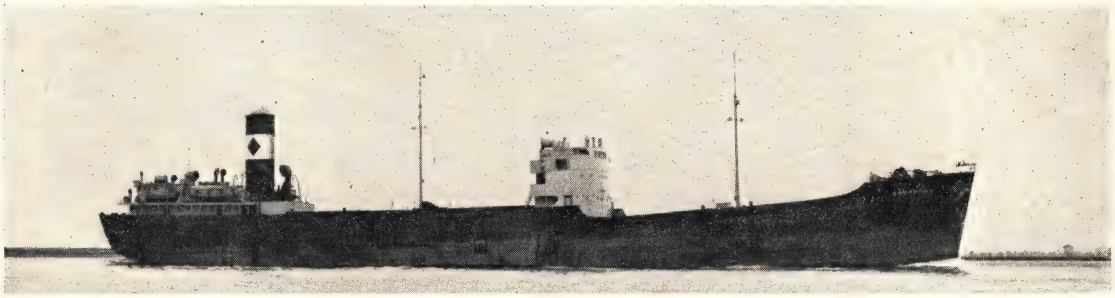
This ship, with a smaller one of similar layout, was delivered in 1929 by the Cowpen Dry Dock & Shipbuilding Co. Ltd., a firm which built comparatively few ships under this name, but which later bought by the Moller group, is better known as the Blyth D. D. & S. B. Co. Ltd. These ships marked a breakaway from the traditional engines amidship arrangement and when the other vessel was sunk during the war the *Corglen*, which is of some 4,250 d.w., was left as the sole example in the fleet of this early engines-aft type of collier. Besides the now outmoded type of counter stern, age is also betrayed by a rather "open" looking type of bridge, a vertical bar stem and a funnel that is unusually tall and thin. But basically her layout is little different from that of many newer vessels.

ENGINES AFT, BRIDGE AMIDSHIPS, CRUISER STERN, SMALL TYPE

Corfell	**1934**	**1,802**	**gross**
Corfirth	**1934**	**1,803**	**,,**
Corfleet	**1934**	**1,803**	**,,**
Corferry	**1937**	**1,788**	**,,**
Corfoss	**1942**	**1,849**	**,,**
Corfen	**1944**	**1,867**	**,,**
Corflow	**1946**	**2,159**	**,,**
Corfield	**1932**	**2,065**	**,,**







Above :
S.S. Cormead 1943

Below :
S.S. Corsound 1953
ex Cormoor

Photos L. Dunn

The advantages of the engines-aft layout having been confirmed by service, the next development was the introduction of the cruiser stern. The " F " class vessels, the earliest of which appeared in 1934, were amongst the first Thames colliers to incorporate this feature. The pre-war quartette *Corfell*, *Corfirth*, *Corfleet* and *Corferry* are all of approximately 2,700 tons d.w. and have dimensions of 257 ft. × 39 ft., figures which also apply to the later and slightly different looking *Corfoss* and *Corfen*. The first three were built at Sunderland by S. P. Austin & Sons Ltd., and the *Corferry* at Burntisland. Compared with larger " M " class units their vertical stems make them seem rather heavy forward. Yet despite this and the closeness of the funnel to main mast, they have a handsome, well balanced profile. This is probably enhanced by the tall oval funnel, which is slightly raked and capped by a slim cowl top.

Here we come to another major change in appearance, namely the size of masts. Up to and including the first three of these ships it had been the custom to have masts that were capable of taking derricks, even if these were not always carried. The masts had to be of adequate height and strength and usually had conspicuous crosstrees and derrick tables. The *Corfell*, *Corfirth* and *Corfleet* were so fitted, although latterly the derricks have been removed. The otherwise similar *Corferry*, built three years later was given a new type of mast. This was of much lighter construction and merely designed to carry signals, steaming lights and aerial.

In the *Corfoss* and *Corfen*, which joined the fleet in 1942 and '44, we find another important new feature, the introduction of the sliding steel hatch cover, which besides giving much greater safety may be opened and closed in a fraction of the time needed for the old wooden type. The two ships which were built by Burntisland and Hall Russell are otherwise generally similar to *Corferry*. The bridge however, is of more solid appearance, while the funnel is shorter and has a much heavier cowl top, the general effect being less pleasing.

The *Corflow*, bought in 1946 belongs to a little known standard type, of which only three were built—all by J. Crown & Sons Ltd., of Sunderland. Ex *Empire Lowlander*, her sisterships *Empire Highlander* and *Empire Lambeth* became the France Fenwick owned *Arnewood* and *Dashwood*. Again of four hatch design, their chief difference lies in the enclosure of the after superstructure, which is also extended to the stern. This forms a poop deck on the quarter deck. Although devoid of any major house above, it makes the ship look very high aft. Slightly larger than the earlier " F " class units, the *Corflow* has a deadweight capacity of some 2,900 tons and main dimensions 273 ft. × 41 ft.

The *Corfield* is one of the " Icemaid " standard type colliers. Built at Grangemouth as the *Empire Shepherd*, she was later owned by W. A. Souter & Co. Ltd., as the *Sheaf Field*, before being sold to Corys in 1952. She is of very similar size to the *Corflow*, being 272 ft. in length and 40 ft. in breadth, her deadweight tonnage being just over the 2,800 ton mark. As on the *Corflow* the after superstructure is plated in, but does not extend to the stern. Both ships have rather heavy masts with prominent crosstrees and derrick tables, although derricks are conspicuous by their absence. In contrast to the rest of the " F " class both ships have raked stems.

ENGINES AFT, BRIDGE AMIDSHIPS, CRUISER STERN, LARGE TYPE

Cormull	**1942**	**2,865**	**gross**
Cormead	**1943**	**2,867**	**„**
Cormount	**1943**	**2,871**	**„**
Cormain	**1942**	**2,883**	**„**
Cormarsh	**1943**	**2,878**	**„**

Cormoat	**1945**	**2,886**	**gross**
Cormist	**1946**	**2,885**	**„**
Corsound	**1953**	**3,374**	**„**

The first seven ships are of a virtually standard type, of which many were built during and just after the war. They are of 4,250/4,350 tons d.w., while the last named, the new *Corsound* carries 4,600 tons. The first three, built by Austin, may be recognised by their taller funnels. Of the remainder the next four, all built by Burntisland, have a much shorter funnel with a cowl top. Another recognition feature of Burntisland-built units is the prominent housing at the base of each mast. There is little difference in size, the Austin built ships being 317 ft. × 40 ft. The Burntisland ships have the same beam but are two feet shorter. The *Corsound* delivered by Hall Russell in July 1953, differs somewhat in detail and is slightly larger, being 320 ft. × 46 ft. Originally this ship was known as the *Cormoor*, but recently it was decided that, as she was a of new size group, her name should give indication of the fact. Accordingly she has just become the *Corsound*, the first of the " S " class, of which two more are now on order at Burntisland. This, the latest Cory ship, may be distinguished from the " M " class units by the arrangment of her after superstructure. This is set one deck higher, on a sidehouse which finishes short of the stern. The mainmast too, is stepped in a slightly different position.

When new the *Cormead* and *Cormarsh* presented a very different profile, for they first carried two very tall and heavy masts, designed for off-loading army tanks. The funnel too, on the *Cormarsh* was then very much smaller. The *Cormain* and *Cormull* temporarily bore other names. In 1946 they were Cory's contribution to the newly formed Coastwise Colliers Ltd., and became the *Coldridge* and *Coldharbour* respectively. When this company came to the end of its short life in 1949 the vessels were taken back and reverted to their old names.

ENGINES AND BRIDGE AFT, CRUISER STERN

Corbrae	**1952**	**2,002**	**gross**
Corburn	**1953**	**2,059**	**„**

The delivery of these two motorships not only introduced a new form of propulsion to the Company's fleet, but also a new layout. Vessels of just under 2,800 tons d.w., they have dimensions 260/262 ft. × 39 ft. and are propelled by a British Polar diesel of 1,040 b.h.p., giving a speed of about 11 knots.

The most noticeable feature of these two is the placing of all accommodation aft in a short high superstructure. The lightweight telescopic masts—three in number—are also stepped differently. The *Corbrae* was built at Burntisland and the *Corburn* at Goole—the first in this fleet to be built there. The two differ somewhat in detail. Whereas the *Corbrae* has most of the base of the superstructure plated to the hull sides, the *Corburn* has a full length open alleyway. While the *Corbrae* has much open rail above, the Goole built ship has continuous bulwarks. Again, the Burntisland built *Corbrae* has a shorter foremast.

Some Preserved Old Ships in the

U. S. A.

BY ALAN VILLIERS

continued from page 84

World War. Afterwards there was no work for her, and she was rather old. So she was laid up in Florida waters until Mystic asked for her. The two-year lay-up under the Florida sun did her no good, but she is in good hands now. It costs money—lots of money—to preserve old ships. The Mystic Museum is currently spending some $35,000 to restore the *Morgan* though she has been restored expensively before today. Half one side of her was being rebuilt when I was there in October, and there was plenty more to be done. The *Conrad*, after all, is an iron ship built in 1882. In many ways old metal ships are harder to keep up than wooden ones, and I had banged some of the good iron plates out of her when she dragged ashore on the Brooklyn rocks in a harbour gale in '35. She was wearing a bit thin in spots even when I bought her (or the Danes would never have parted with so excellent a ship), and she cannot last for ever. There is talk of coating her with some new kind of plastic which may preserve her indefinitely. I hope it comes off : in any case, the old ship is in good hands, and if she can be restored to her original state, she will be.

That old seaport at Mystic is well worth a visit. The ships are only part of the project. Rope-walks, sailmakers' shops, rigging lofts, a maritime blacksmiths — even an ancient apothecarys and a minute bank—have been unearthed and brought together there, to form an authentic background for the cobbled old waterfront street, with the jib-booms of the two full-riggers stretched over it as the headgear of so many noble old ships used to be. Mystic's maritime museum is real, and in the summer it does excellent work, too, with its youth-training programme, when sea scouts and girl scout mariners come from all over the country and from Canada to live awhile in the *Joseph Conrad* and sail in small yachts and dingies, and in the museum's sailing schooner *Brilliant* for a run outside at sea.

It was encouraging to see all these things and to visit the ships. The foremast of the *Constitution* was lifted out when I saw her at Boston in December. There is some dry-rot, I was told, but it will be put to rights. The *Constitution* lies afloat, as the *Conrad* does, and it is the Navy's intention to keep her so. All the ships I have mentioned in U.S.A. are scheduled to be preserved indefinitely—or at any rate, so long as the funds hold out.

Wooden Shipbuilding in Denmark

By David R. MacGregor

ALL work on the frame as it lay on the scrieve board was now finished. It remained to slide it along the keel to its position. To do this a short plank bridged the gap between the scrieve board and the head of the keel. A jack was placed under the top end of the frame at each side. Turning the handle in a circular motion, the end of the frame was jacked up sufficiently above the board to allow of an 8 in.-square beam, rather longer than the greatest breadth of the ship, being inserted under the frame heads, to which it was securely lashed on each side. The whole gang got on to the board, lifted the doubled frame by the beam at the top and pushed the whole fabricated section across the plank on to the keel and so down as far as the last erected frame.

But before continuing with its erection, let me briefly describe the provision made on the keel to receive the new frame. The floors fitted into a seating cut an inch and a half deep into the keel. This seating was the width of the doubled frame, and was cut in from each side of the keel leaving a ridge 2 in. wide in the centre which fitted into a corresponding slot cut in the floors. Two further slots were cut in the floors, one each side of the keel just below the timbers, to allow free passage for the bilge water. The slots in the floor were cut with a small double-handed saw used vertically and the wood cut out with a chisel. An adze was used to make the seating on the keel and a chisel to finish off the edges. A cross spall consisting of an untrimmed length of a 2 to 3 in. diameter fir tree was nailed across the heads of the frame between the top timbers, to act as a temporary deck beam.

The framing gang had meanwhile returned to the scrieve board which was scrupulously swept clean,

(*Continued from February issue page* 48)

Erection of frames. Frame has been slid along keel and is ready for hoisting into position by means of sheer legs. Scrieve board is on extreme right. Note the sawn logs in foreground

Outside view of the frames toward the sternpost showing one of the ribbands in position. The rabbet in the keel and sternpost has been cut to receive the planking

and they were in process of assembling the timbers for the next frame, when they were called down to assist in hoisting the doubled frame into position. Mr. Ring-Andersen was himself present.

Between the last frame and the position for the new one was placed an 18 in. high block of wood as wide as the keel, and with the forward side splayed off towards the top, to act as a fulcrum. Tackles, led from a pair of sheer-legs, one to port and the other to starboard, were hooked on to lashings at the head of each top timber, as may be seen in the photograph on page 96, and with two men manning each fall the whole frame was hoisted up as the floors pivoted about the keel. In a few seconds the frame was standing vertically in its place. The men dispersed again to their previous occupations. Four-inch square shores were then placed under the bilge, their lower ends resting on planks laid on the ground to keep them rigid.

Consecutive to the assembly of the frames and their erection was the continuous operation of fairing up all timbers so that the final result might be a streamlined hull. To fair in the frames, ribbands, consisting of long lengths of rough pliable timber of as much as 2 in. by 5 in. scantling, were fixed to the bottom of the timbers in several places on the framed hull. They were pulled and hauled into position with the aid of ropes by men standing on the low stages or on the ground. They were clamped tight while an electric drill made a hole through the ribband into the frame. Later they were spiked to the frames. Working from the basis of the defined fore and aft edges of each doubled frame and with the aid of the ribbands, the surplus timber could be adzed away from the frames till all was smooth and the ribbands took up fair and true curves.

A final test as to the fairness of the frames was made as follows. A batten measuring 2 in. by $\frac{1}{2}$ in. and some 18 ft. long was laid against the frames by four or six of the shipwrights, who held the batten in one hand and with the other marked with a piece of chalk those frames that needed further adzing. This operation was continued two, three or even four times over the same area until all the frames were faired up.

There are so many processes connected with building the structure of the hull that it is obviously impossible to go into them all in detail here. For this reason I have concentrated mainly on the framing, which is an operation not often seen today. About three or four doubled frames were erected daily, the whole process, including drawing out the sections on the scrieve board, taking not longer than about four weeks.

When all the forward frames that rested on the keel had been erected, the stem was hoisted into place either by means of sheer-legs or a crane. The stemson had previously been bolted to the stem and so had the knightheads. Chains were passed around the keel and the lower part of the stem and stemson, wedges were driven under the chains to press both parts closely together, and then long bolts were driven right through. The beam shelf, lodging knees, deck beams, hanging knees, waterways and keelson could now be fitted.

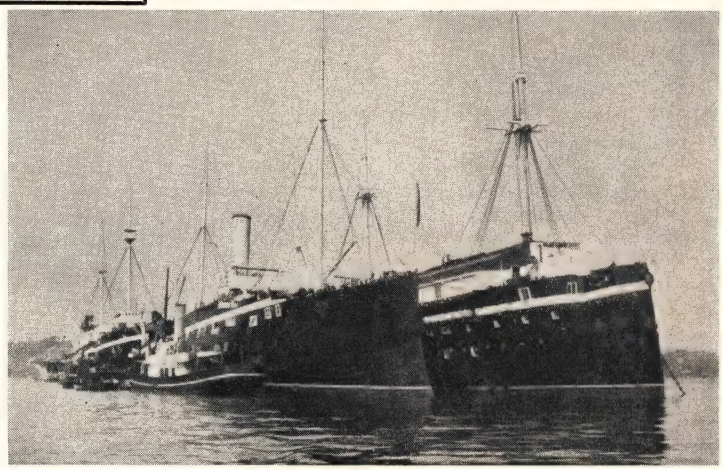
Considerable pains were taken in the attempt to obtain a good sheer. Six-inch by half-inch battens in 20 ft. lengths, painted black with a white stripe down the centre, were loosely nailed along the marks on the frames from stem to stern at the height of the sheer strake, and were then left to be looked at from all angles for sometimes as much as a week. I have been told that Mr. Ring-Andersen has even climbed on to the roof of some shed to have a better look at a certain vessel's sheer. Then, when at last he was satisfied that the sheer was fair and sweet, the final marks for the sheer strake were made on the frames and then transferred to the other side. It is said that as little as a quarter of an inch can spoil an otherwise good-looking sheer.

(*To be continued*)

Naval Photograph Club

Naval Notes and Jottings

BY P. A. VICARY



The three ships comprising H.M.S. "Defiance" *Photo P. A. Vicary*

THE famous naval training establishment, H.M.S. *Defiance*, is to be closed down this year. Since World War II the *Defiance* has been the electrical and torpedo school ship at Devonport, and upon her closing down her trainees will be drafted to H.M.S. *Collingwood*, the large shore establishment near Gosport, and to H.M.S. *Vernon* at Portsmouth. The *Defiance*, which comprises the three veteran ships H.M.S. *Andromeda* built 1897, *Vulcan* 1889, and *Inconstant* 1868, was in pre-war days the torpedo school ship similar to H.M.S. *Vernon* at Portsmouth. The removal of these old ships from Will Cove on the Cornwall side of the Hamoaze, will end the last surviving naval training establishment afloat, and will be a landmark which will be missed in the West Country port. The illustration shows H.M.S. *Defiance* as she now appears.

It is understood that it is likely the fleet carriers H.M.S. *Implacable* and *Indefatigable*, now forming the training squadron at Portland will, in the near future, be replaced by light fleet carriers, and the former vessels will be placed in Reserve. The crews of these ships will, in all probability, be required to man the new carriers of the *Hermes* class : the *Bulwark* and *Albion*. The *Centaur* is already in commission at Portsmouth.

H.M.S. *Victorious*, our oldest carrier, has been completely refitted and modernised and will emerge from Portsmouth Dockyard as the last word in aircraft carriers.

The Fifth Frigate Squadron Mediterranean based on Malta comprises the *Wrangler*, *Wakeful*, *Whirlwind* and *Roebuck*.

The *Daring* class ships are to have enlarged and raking funnel casings put over the existing thin funnel, which will enhance their appearance somewhat. The *Daring* herself is the first ship of her class to have her new funnel. H.M.S. *Delight* has now joined the *Daring* in the Mediterranean.

The submarines *Taurus* and *Tapir*, which have been on loan to the Royal Netherlands Navy, have been returned to H.M.S. *Dolphin* at Portsmouth. Their Dutch names were *Dolfijn* and *Zeehond* respectively.

It is understood that negotiations are being made for the purchase of the Royal Navy's two unfinished aircraft carriers *Leviathan* and *Hercules* ; a possible purchaser is Brazil. The *Leviathan* has been laid up at Portsmouth since July 1946, and she is, it is understood, 80 per cent. fitted out. No work has been carried out on her for the past eight years, and she has been used as a store ship. The *Hercules* has been laid up at Faslane in the Gareloch since work on her ceased in May 1946. Both ships belong to the class of carriers, from which emerged the *Magnificent* now in the Royal Canadian Navy, and the *Terrible*, renamed *Sydney*, which is in the Royal Australian Navy.

The new aircraft carrier, *Powerful*, which is completing at Belfast, has been renamed *H.M.S. Bonaventure* and has been modernised to enable her to fly off and on jet aircraft. She will have the new angled deck, and a steam catapult.

New orders for five frigates have been placed with Tyne Shipyards, and are to be built by Hawthorn Leslie, Swan Hunter and Vickers-Armstrong.

One of the first air-sea rescues to be made by helicopter was performed by a machine from H.M.S. *Warrior*, when an Avenger aircraft from Lee-on-Solent ditched off Lymington. *Warrior's* helicopter picked up the crew of two from the Avenger aircraft.

H.M.S. *Loch Glendhu*, frigate, returned to Portsmouth from the East Indies Squadron after eight years service abroad, during which she has taken part in exercises with ships of the Royal Pakistan Navy, the Royal Ceylon Navy, and the Indian Navy.

Some of the ships of the Reserve Fleet are to be berthed at Newcastle-on-Tyne in the Northumberland and Albert Edward Docks. Units of the Reserve Fleet are already berthed at West Hartlepool, Cardiff, Penarth, Lisahally, Barrow, Llanelly and Greenock.

Admiralty photo.

Drawings of Warships

"TRIBAL" CLASS DESTROYERS

By NORMAN A. OUGH

IN continuation of my series of plans for model makers of ships of the Royal Navy of today this drawing once more illustrates the fact that a very detailed study of a modern warship can be made without reference to official information other than that which is available to the public. It is based on a sketch plan published in the proceedings of the Institution of Naval Architects in a reprint from a paper read to the Institution by its vice-president Sir Stanley V. Goodall K.C.B., O.B.E., Director of Naval Construction, on April 10th, 1946. The sketch plan included a midship section. Further information was obtained from the builder's model of H.M.S. *Matabele* in the National Maritime Musuem, and from photographs.

The famous "Tribal" class destroyers all saw heavy war service from 1939 to 1945, and of the sixteen ships only four, *Eskimo, Nubian, Ashanti* and *Tartar* survived. From internal evidence, it seems probable that Ludovic Kennedy in his book "Sub-Lieutenant—A personal Record of the War at Sea" (Batsford & Co. Ltd.) describes in H.M.S. *T*—— the last named of these. It is one of those war books that, once begun, is difficult to leave. It is alternately slangy and serious; the humorous episodes being very funny indeed, and others very moving. The *Tartar* was involved in the Lofoten Raid and the Spitzbergen expedition, and in many incidents in North Sea and Atlantic convoys and patrols, and in the sinking of the *Bismarck*. Here are a few lines from his description of his first sight of the ship lying alongside an oiler. "She was a fine-looking vessel with sloping bows and gracious lines. Her main armament of 4.7 inch guns stood out boldy against the evening sky; the White Ensign fluttered at her mainmast . . . Here was a ship built to attack. Here were power and majesty and beauty; sleek sharp lines and wicked-looking guns; bows which could cut through the water like scissors through paper; a streamlined bridge from which to command and to control the power of forty four thousand horse . . ." And further on is a description of the bridge—"At sea, the bridge of a modern destroyer is the control centre of the ship. In the centre of it is a raised dais known as the compass platform, in the middle of which stands the pelorus, which houses the compass. From behind this the officer of the watch controls the movements of the ship. A voicepipe on the right of the pelorus communicates with the quartermaster at the wheel below; one on the left communicates with the Captain's sea-cabin.

"The bridge abounds in telephones and instruments. There are telephones to the engine room, the quarter deck, the director control tower, the close range armament, the after control, the torpedo tubes—in fact, to every key position in the ship. There are voice pipes to the gyro compass room, the crow's-nest, the anti-submarine cabinet, the wireless office, the signal distributing office, the flag deck and the chart house. In the front of the bridge is the famous Asdic gear, by which so many U-Boats have been destroyed. A clock-like dial on the left is the automatic log, and a recess in front of the pelorus the chart table."

Sir Stanley Goodall describes in the paper mentioned above, the origin of the "Tribal" class

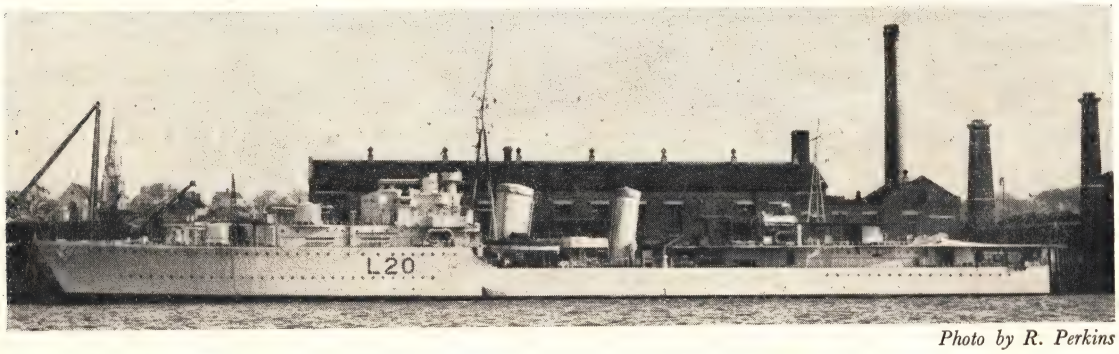
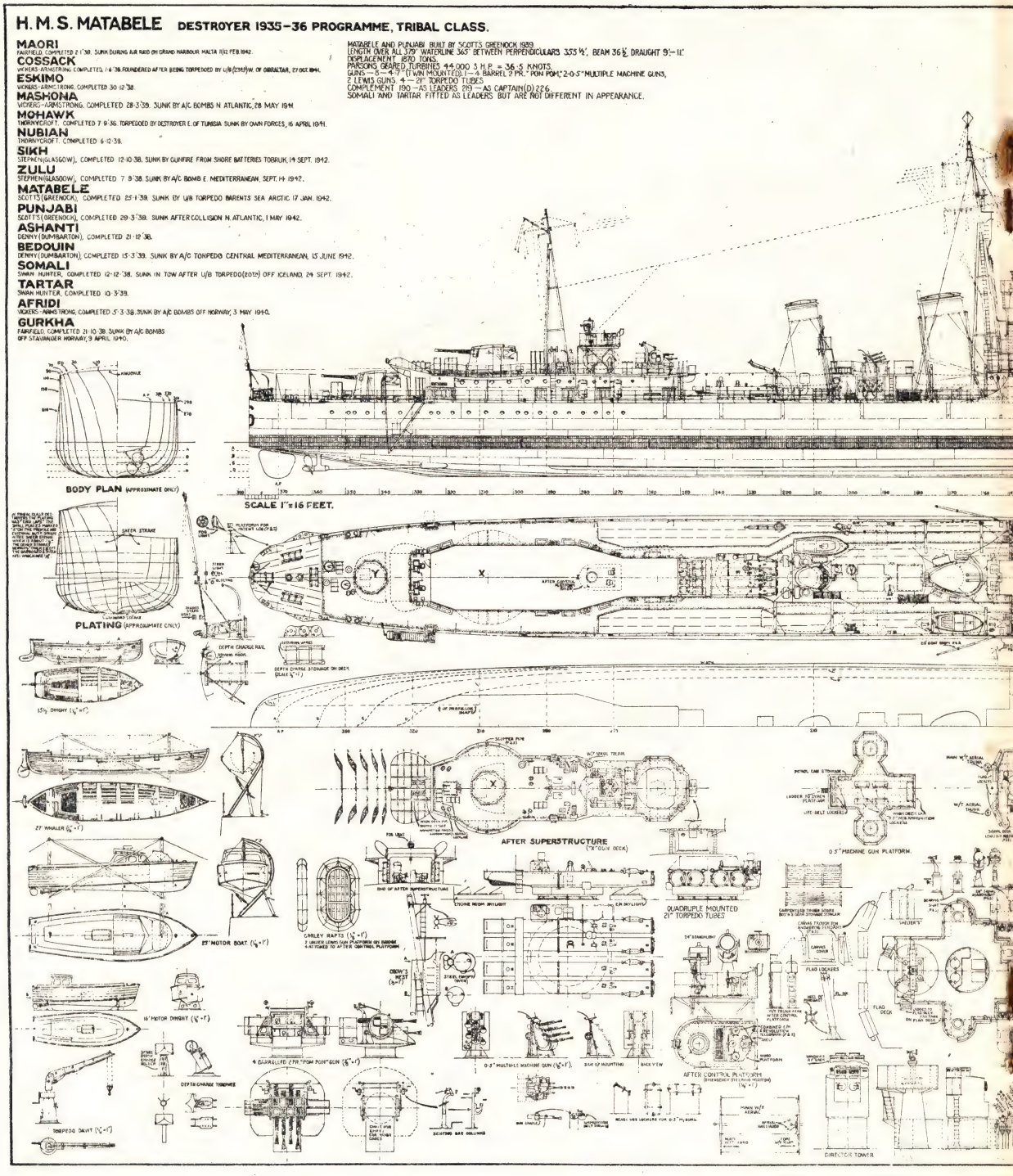


Photo by R. Perkins

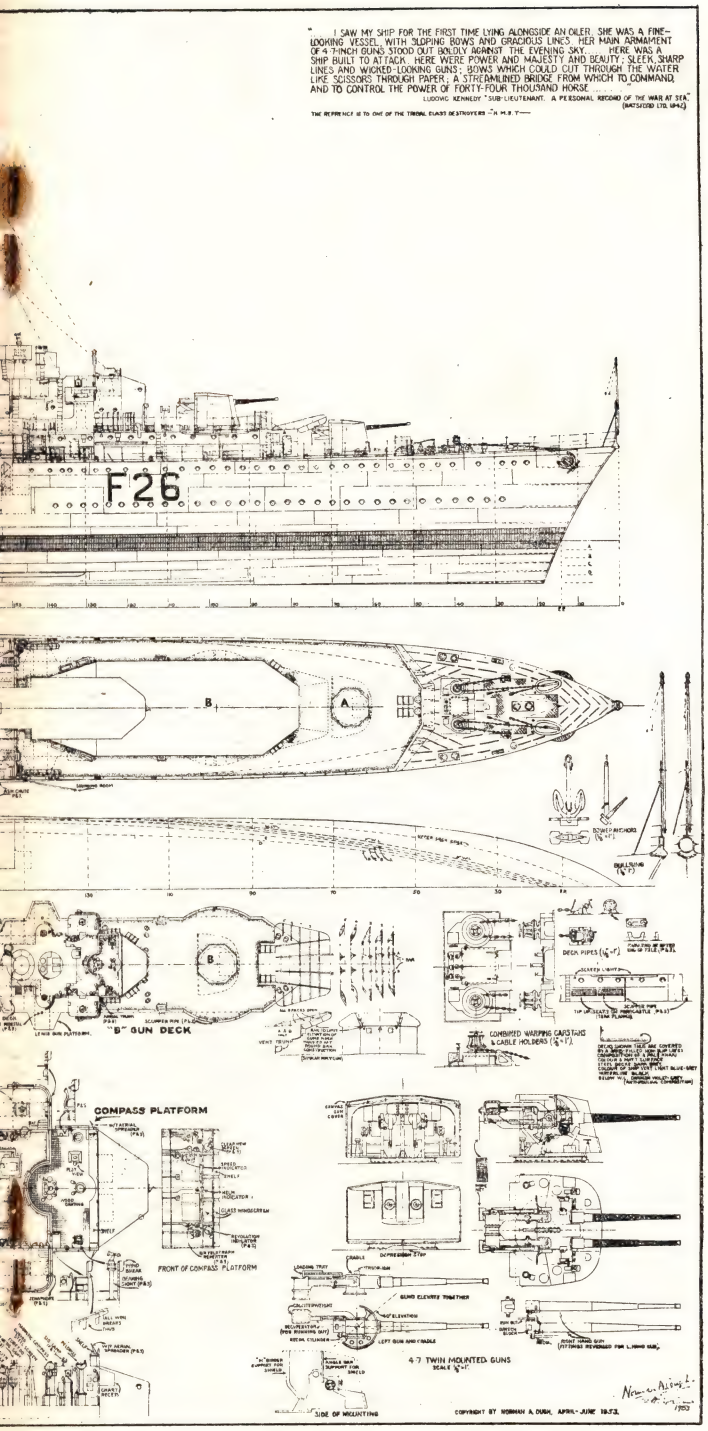

H. M. S. MATABELE DESTROYER 1935–36 PROGRAMME, TRIBAL CLASS.
MAORI
FAIRFIELD. COMPLETED 2-1-'38. SUNK DURING AIR RAID ON GRAND HARBOUR MALTA 11/12 FEB 1942.
COSSACK
VICKERS-ARMSTRONG. COMPLETED 1-4-'38. FOUNDERED AFTER BEING TORPEDOED BY U/B (563) W. OF GIBRALTAR, 27 OCT. 1941.
ESKIMO
VICKERS-ARMSTRONG. COMPLETED 30-12-'38.
MASHONA
VICKERS-ARMSTRONG. COMPLETED 28-3-'39. SUNK BY A/C BOMBS N. ATLANTIC, 28 MAY 1941.
MOHAWK
THORNYCROFT. COMPLETED 7-9-'38. TORPEDOED BY DESTROYER E. OF TUNISIA. SUNK BY OWN FORCES, 16 APRIL 1941.
NUBIAN
THORNYCROFT. COMPLETED 6-12-'38.
SIKH
STEPHEN (GLASGOW). COMPLETED 12-10-'38. SUNK BY GUNFIRE FROM SHORE BATTERIES TOBRUK, 19 SEPT. 1942.
ZULU
STEPHEN (GLASGOW). COMPLETED 7-9-'38. SUNK BY A/C BOMB E. MEDITERRANEAN, SEPT. 19 1942.
MATABELE
SCOTT'S (GREENOCK). COMPLETED 25-1-'39. SUNK BY U/B TORPEDO BARENTS SEA ARCTIC 17 JAN. 1942.
PUNJABI
SCOTT'S (GREENOCK). COMPLETED 29-3-'38. SUNK AFTER COLLISION N. ATLANTIC, 1 MAY 1942.
ASHANTI
DENNY (DUMBARTON). COMPLETED 21-12-'38.
BEDOUIN
DENNY (DUMBARTON). COMPLETED 15-3-'39. SUNK BY A/C TONPEDO CENTRAL MEDITERRANEAN, 15 JUNE 1942.
SOMALI
SWAN HUNTER. COMPLETED 12-12-'38. SUNK IN TOW AFTER U/B TORPEDO (202t) OFF ICELAND, 29 SEPT. 1942.
TARTAR
SWAN HUNTER. COMPLETED 10-3-'39.
AFRIDI
VICKERS-ARMSTRONG. COMPLETED 5-3-'38. SUNK BY A/C BOMBS OFF NORWAY, 3 MAY 1940.
GURKHA
FAIRFIELD. COMPLETED 21-10-'38. SUNK BY A/C BOMBS OFF STAVANGER NORWAY, 9 APRIL 1940.
MATABELE AND PUNJABI BUILT BY SCOTTS GREENOCK 1939.
LENGTH OVER ALL 339' WATERLINE 345' BETWEEN PERPENDICULARS 335½', BEAM 36½' DRAUGHT 9'-11'.
DISPLACEMENT 1870 TONS.
PARSONS GEARED TURBINES 44,000 S.H.P. = 36-5 KNOTS.
GUNS—8—4·7" (TWIN MOUNTED) 1—4-BARREL 2 PR." POM POM," 2-0·5" MULTIPLE MACHINE GUNS,
2 LEWIS GUNS. 4—21" TORPEDO TUBES.
COMPLEMENT 190—AS LEADERS 218—AS CAPTAIN(D) 226.
SOMALI AND TARTAR FITTED AS LEADERS BUT ARE NOT DIFFERENT IN APPEARANCE.
BODY PLAN (APPROXIMATE ONLY)
SCALE 1"=16 FEET.
PLATING (APPROXIMATE ONLY)
AFTER SUPERSTRUCTURE
QUADRUPLE MOUNTED 21" TORPEDO TUBES
0·5" MACHINE GUN PLATFORM.
AFTER CONTROL PLATFORM
DIRECTOR TOWER

Heading photo p. 99

Bridge of H.M.S. "Kelly," which is almost identical with that of H.M.S. "Matabele."

Photo at foot of p. 99.

H.M.S. "Gurkha" alongside the dockyard at Devonport.


"... I SAW MY SHIP FOR THE FIRST TIME LYING ALONGSIDE AN OILER. SHE WAS A FINE-LOOKING VESSEL, WITH SLOPING BOWS AND GRACIOUS LINES. HER MAIN ARMAMENT OF 4·7-INCH GUNS STOOD OUT BOLDLY AGAINST THE EVENING SKY. ... HERE WAS A SHIP BUILT TO ATTACK. HERE WERE POWER AND MAJESTY AND BEAUTY; SLEEK, SHARP LINES AND WICKED-LOOKING GUNS; BOWS WHICH COULD CUT THROUGH THE WATER LIKE SCISSORS THROUGH PAPER; A STREAMLINED BRIDGE FROM WHICH TO COMMAND, AND TO CONTROL THE POWER OF FORTY-FOUR THOUSAND HORSE ...
LUDOVIC KENNEDY "SUB-LIEUTENANT. A PERSONAL RECORD OF THE WAR AT SEA."
THE REFERENCE IS TO ONE OF THE TRIBAL CLASS DESTROYERS —"A.H.B. T——
F26
"B" GUN DECK
COMPASS PLATFORM
FRONT OF COMPASS PLATFORM
4·7 TWIN MOUNTED GUNS
SIDE OF MOUNTING
COPYRIGHT BY NORMAN A. OUGH, APRIL-JUNE 1953.

Above.

Reduced facsimile of Norman Ough's drawing of the Tribal Class destroyer "Matabele."

ships as follows—"After the 1914-18 war a steady programme of destroyer replacements was not commenced until 1927. For the ensuing nine years British destroyer practice was based on the requirement that the Royal Navy needed small handy ships with a good torpedo armament. Moreover, numbers were required, and as Great Britain was tied by International Treaty to a certain global tonnage it was necessary to keep down the standard displacement of the units. [These were the 60 ships of the A,B,C, etc., classes referred to with a drawing of one of the D class in the September 1953 issue of MODEL SHIPS AND POWER BOATS.] But other navies were developing large, fast, heavily gunned ships in the destroyer category. In 1935 the school of naval thought that held there was a need for more heavily armed destroyers in which torpedo armament was sacrificed to gun armament prevailed and the 'Tribal' class was the outcome.

"As compared with earlier destroyers the gun armament was doubled by the adoption of twin mountings and the high angle armament substantially increased by mounting a 4-barrelled, Mark M, pom-pom; torpedo armament was reduced from the normal 8 (10 in some ships) to 4 tubes. There was some trepidation in naval circles over the resulting size of these ships and very great pains were taken to economise weight. It was decided to accept slightly higher hull stresses. On service this proved justified except in one particular area of the bottom plating where a leaky joint caused trouble with the feed water; this was corrected but the moral has to be recorded that a departure from long-established practice should only be made with great circumspection."

It will be noticed in the drawing that the hull plating has the appearance of that of a merchant ship, the plates having "end laps," which is quite unusual in destroyers or in British warships generally. In normal practice the plate ends are brought together flush and connected on the inboard side by a butt strap, the seams only being overlapped. From a model maker's point of view, this method of building is an advantage as cutting and forming the plates in short lengths reduces the probability of distortion of the metal in soldering. To ensure enough longitudinal strength in a model built to the scale of $\frac{1}{8}$ in. to 1 ft. the "in" strakes should be of slightly heavier metal than the "out" strakes which ought not to exceed 0.006 in. in thickness. The overlap of the seams should be kept as narrow as possible—about one sixteenth of an inch—as a wider overlap requires more heat in soldering the joint which increases the likelihood of distortion of the plates, and the extra weight given to the hull causes loss of buoyancy. In nearly all destroyers the middle part of the "sheer strake," which runs the whole length of the ship with its upper edge at the level of the upper deck, is connected by external butt straps. These are a prominent feature of the plating and the six of them are shown on the drawing at the places marked X.

The "A" Class Sharpie

★ and how to build her

"K.N."

BY
H. B.
TUCKER

In playing chess, the master has his plan of campaign and thinks a number of moves ahead, whereas the beginner blunders from move to move. When building a boat, it likewise is advisable to think several moves ahead. Otherwise, one is liable to find one has created difficulties for oneself, where none should exist. Therefore, it may be advisable for the beginner to study exactly what lies ahead before proceeding further.

By way of a start, let us examine the construction plan showing model on building board, which concludes last month's instalment of this series of articles. This diagram should have been called Fig. 5 and shows the yacht *in frame*. The expression "in frame" means that the hull members are completely set up and the vessel ready to receive her planking. At the bottom of the drawing is the building board with the square cross-pieces A mounted on it. To these are secured the moulds (templates on which the planking is shaped).

When we were fixing these to the building board, it was stressed that the cross-pieces in the forward part must have their forward faces on the station lines and those in the after part their after faces on the lines. This is to enable *the moulds in the fore part of the boat to have their after faces on the section lines, and the moulds in the after part to have their forward faces on the section station lines.*

The reason for this is obvious. The hull tapers off from the middle towards the ends of the boat. The moulds are cut to the shape of the section at the station line. Let us take as an example the mould for Section 3. If, instead of mounting it with its after face on the line, we had its forward face there, then when we come to bend the planking round it, the planking would take only on the forward edge. But the planking has to take right across the mould, and by mounting it with its after face on the line, its edges can be bevelled away on the forward corner until the planking takes uniformly right across the mould.

The backbone (or keel assembly), also the inwale (or shelf), and upper and lower chines, are positioned in slots in the moulds, and these slots have likewise to be bevelled off so that these frame members also take right across the moulds. This is apparent if the tops of the moulds are examined in the drawing.

The keel assembly (or backbone) of the yacht is in three parts. Of these, the centre member is formed by the upper part of the bread-and-butter fin. From the drawing of the boat in frame (Fig. 5), it will be seen that there are two ¼ in. thick layers on top of W.L.8. The reason for these thin layers is to provide a sufficient holding for the garboard strake and its fastenings. The upper one of these ¼ in. layers is only necessary forward and stops ¼ in. forward of Section 6, and butts against the frame there. Intending builders are strongly advised to obtain a set of the full-size plans now available from the offices of this magazine, as these shapes can then be taken off easily.

The forward and after members of the backbone have a heel which overlaps the centre member and serves to secure them to it. The heel of the forward member butts against the frame on No. 5 station, and the heel of the after one against No. 7 frame. The skeg is put in place before the keel is assembled.

Below the keel assembly in our drawing are the lower and upper chines. Although both are of the same scantlings (= measurements), owing to the angle at which it is set, the lower chine looks the narrower. Above these is the inwale which serves the double purpose of strengthening the sheer (upper edge of topsides), and supporting the deck. This is often called the "shelf."

To explain the construction forward, it is necessary to study Fig. 6. The top drawing shows how the stem is attached to the keel. There are two broken lines down the stem. The forward one is the "rabbet" line, and the after one the "bearding" line. The planking is housed in a rebate down the stem. At its forward end the rebate (corrupted to "rabbet") is the full depth of the planking, but as it comes aft becomes shallower, and finally comes to the surface at the bearding line. Hence the "rabbet line" and "bearding line." The third of the three figures shows in plan the bow at the level of the inwale and at the level of the upper chine. These show how the inwales and chines are chamfered off and butt against the stem with their fore ends on the bearding line, so as to back the planking.

(*Continued from February issue page* 61)

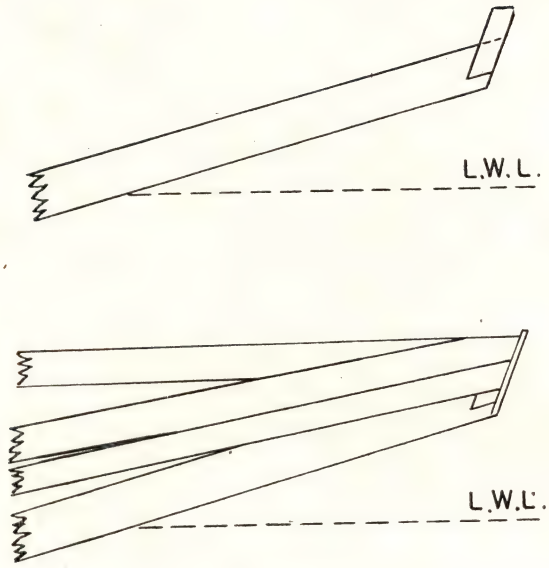


Fig. 7. Construction at stern

It will also be noted from the second drawing that owing to the narrowing of the bilge strake, the chines run together, with the result that they are chamfered off to suit. Before passing to the stern, it may be observed that I have shown the top of the stem cut off as it will eventually be after the hull is planked, though at this stage, of course, it will still have the ear at the top to attach it to the building board.

Turning to the stern (Fig. 7), the keel is let into the inner transom for its full depth as shown in the upper diagram. The lower diagram shows how the chines and inwales run together and have to be chamfered off. It will be noted that the inwale runs out altogether just ahead of the inner transom. The outer transom is also shown, and houses (or covers in) the ends of the frame members as well as the ends of the planking. Here again I have shown the inner transom without the extension at the top which serves to secure it to the cross-piece on the building board.

On these drawings for the sake of clarity, I have omitted the rabbet line along the keel, and also shown only the outlines of the chines.

No mould is required at Section " O " as we are on the stem at this point.

In building hard-chine model hulls, three-ply wood is frequently used with the edges left exposed. Now the weakness of three-ply lies in its edges, as the lamina can be split apart. It is, therefore better practice to house all edges of plywood. This is done in " KN " in the following way. The lower edge of the bottom lies in the keel rabbet, and its top edge is under the bilge strake. The lower edge of the topsides is likewise under the bilge strake, and its forward edge housed in the stem rabbet. The outer transom covers the after ends of bottom and topsides. The bilge strake is solid wood, not three-ply, so its edges do not need protection. Our deck is also of

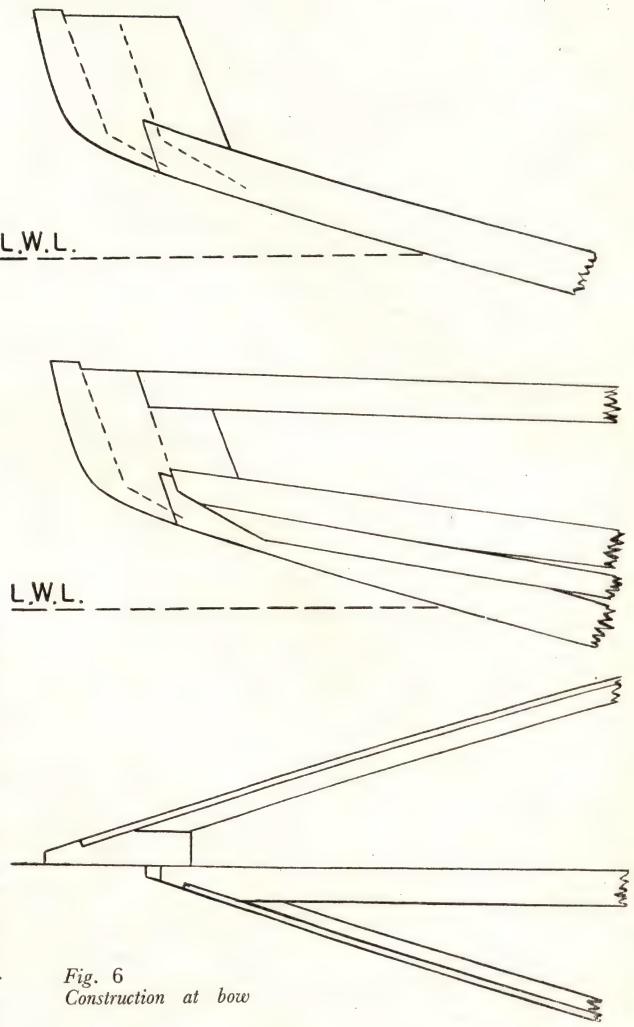


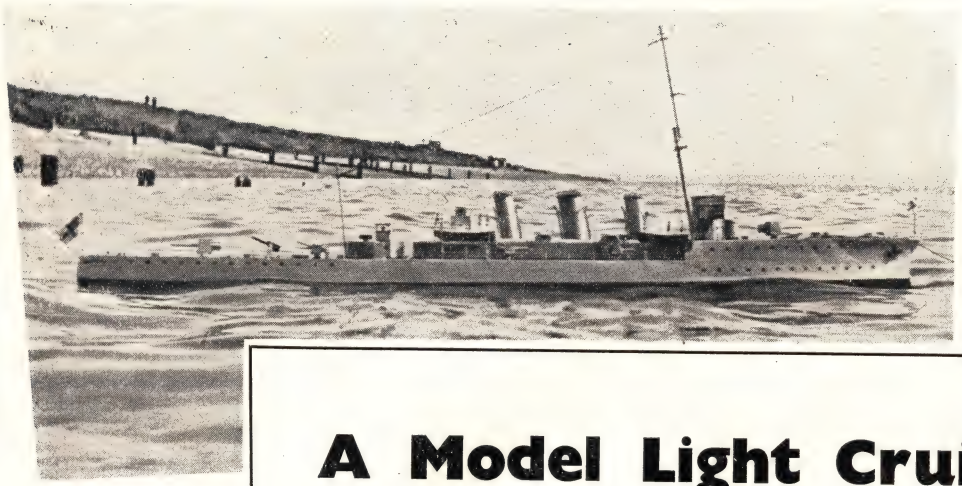
Fig. 6
Construction at bow

three-ply, but drops inside the upper edge of the topsides along the sheer. The topsides thus protect the deck edges, and their own top edges will in turn be covered by the mahogany rail (covering board, or deck bead) put round the deck.

One very simple method of framing a hard-chine hull is to cut the frames from three-ply of suitable thickness and build the boat directly on to these cut frames. This, however, is not remarkably good practice, since it entails putting fastenings into the edges of the plywood, which tends to force the lamina apart. Moreover, this does not make for lightness in construction. Although an A-class is a large, heavy model, and the hull subject to considerable stresses including the wring of a weighty lead keel, the method recommended will ensure a strong, light hull, well up to its work.

We can now proceed to get our moulds and continue the setting up.

(To be continued)



The model at Sea

★ *By*
G. S. Brown

A Model Light Cruiser

IN 1912 the Admiralty announced that a new type of light cruiser was to be built. Sir Winston Churchill was First Lord of the Admiralty at the time ; in his book " The World Crisis 1911-1915 " he says that he presented this new cruiser design to Parliament in the following words :—

" They are described as light armoured cruisers and they will in fact be the smallest, cheapest and fastest vessels protected by vertical armour (3 inch) ever projected for the British Navy. They are designed for attendence on the Battle Fleet. They are designed to be its eyes and ears by night and day, to watch over it in movement and at rest. They will be strong enough and fast enough to overhaul and cut down any torpedo boat destroyer afloat, and generally they will be available for the purposes of observation and reconnaissance."

The name ship of the class was the *Arethusa* and there were seven others :—

Undaunted, *Galatea*, *Penelope*, *Royalist*, *Inconstant*, *Phaeton*, and *Aurora*.

Displacement was 3,500 tons, length between perpendiculars 410 ft., beam 39 ft., draught 13 ft. 6 in. They were armed with two 6 in. guns, six 4 in. guns, one 12 pounder gun on a high angle mounting, and four 21 in. torpedo tubes on twin mountings. Direct drive turbines to four propellers gave a speed of 29 knots.

When completed just before the outbreak of the 1914-18 war they proved to be most graceful little ships, with three funnels and one tall pole mast. The *Arethusa* played a prominent part in the battle of Heligoland on August 28th, 1914. She struck a mine off Harwich on February 11th, 1916, and was beached and became a total loss.

After the Battle of Jutland in May 1916, the remainder of the class underwent several alterations to rig and armament. By 1917 they had all been fitted with tripod masts, and a large fire control and range-finder tower abaft the after funnel. This did not improve their appearance or their stability. The armament was modified, the after 4 in. guns were removed and a third 6 in. gun was fitted on the quarter deck, and two more 21 in. twin torpedo tubes were fitted.

The *Arethusa* class were all scrapped by 1922 but they proved to be the forerunners of a long line of successful light cruisers whose ultimate development was seen in the *Curaçao* and *Delhi* class which took an active part in the 1939-45 war.

The completion of the *Arethusa* at Chatham dockyard coincided with the completion of a model of an " L " class destroyer which I had built. The graceful and speedy looking *Arethusa* appealed very much to me. I was able to get the principal dimensions such as length, beam, length of forecastle, height and spacing of funnels and so on. As I wanted to build the model as close to the original dimensions as possible, to a scale of $\frac{1}{8}$ in. to 1 ft., electricity seemed to be the only feasible motive power. From experience gained in building the destroyer an estimate could be made of the weight of the hull and superstructure and the various deck fittings and guns. The weights of the electric motor and small accumulators were given in the maker's catalogue.

Full size drawings were made and from these it was possible to calculate the displacement. It was then found that in order to carry the calculated weight of hull and fittings, together with the known weight of the electric motor and accumulators, the displacement would have to be increased beyond the scale displacement. This was achieved by increasing the beam by $\frac{1}{8}$ in. and the depth (and so the draught) by $\frac{1}{2}$ in.

The hull was made " bread and butter " fashion from a 14 ft. length of deal plank, and the raised forecastle was fitted after the hull had been shaped and hollowed out. A special round plane was made to work the flare at the forecastle and to fair the

deadwood, which was fitted afterwards, into the hull.

The *Arethusa* class had four propellers, but this did not seem to be reasonably practicable for a working model, so twin propellers were adopted. The electric motor was purchased and this was fitted and geared to the propellers using Meccano gear wheels. There is no reduction in the gearing but it was necessary to introduce an idler wheel in order to achieve outward turning propellers. The shafts are silver steel running in long bronze bushes screwed into each end of the stern tubes. Filled with vaseline the stern tubes are completely watertight.

The superstructure was built up from thin wood. The bridge, funnels, searchlight and range-finder platform were built up from tinplate obtained from cocoa tins. This is excellent material, being light and strong and easily worked. It takes paint or enamel much better than brass and is not unduly prone to corrosion. The same material was used for the gun shields.

In a ship model of such fine lines it is necessary to keep weight down to the minimum ; for this reason the gun mountings and barrels were made of wood, both being turned from beech. One of the plastic materials would seem to be a most suitable material today, but when the model *Arethusa* was built this material was not available.

The masts and yards are of aluminium tube while the torpedo tubes are made up from very thin brass tube such as was used for certain types of aero engine radiators. Davits are of brass wire filled to a degree of taper.

The photographs show the model on completion. There are two anacronisms which must be mentioned to appease the purists (or as friend "L.B.S.C." would say, "Inspector Meticulous").

Three Carley floats are shown in the photographs; two are stowed on top of the boiler room vents between the funnels and one is stowed at the aft end of the searchlight tower. Carley floats were not introduced into the Royal Navy until the year 1917, by which time the remaining seven ships of the *Arethusa* class had all been modified and fitted with tripod masts. The short main mast carrying the aft end of the wireless aerial was fitted at this time.

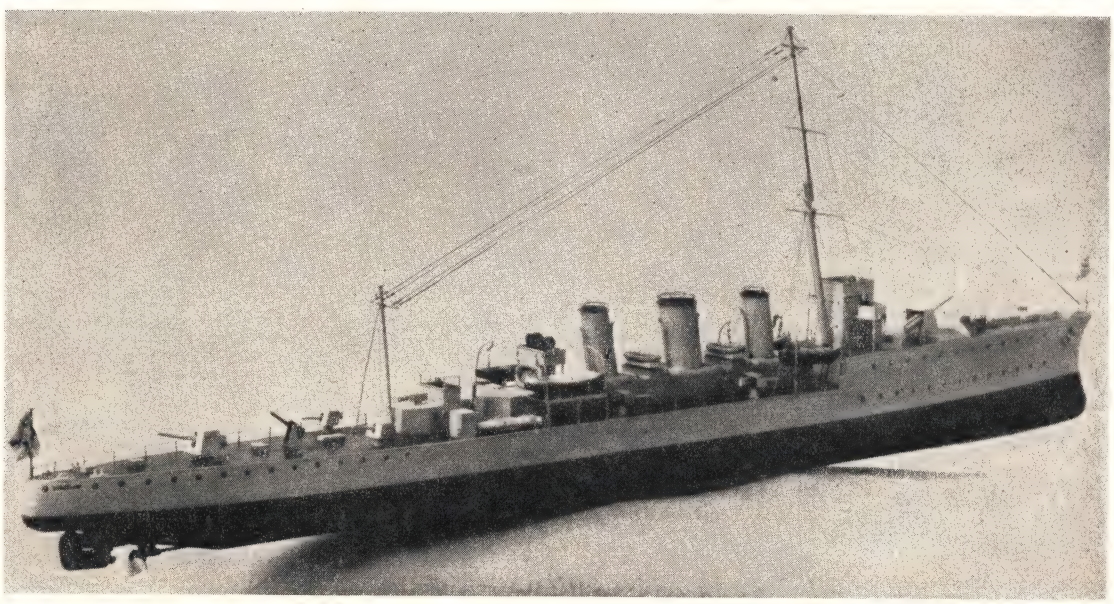
The model was painted throughout with Robbialac enamel thinned out with turpentine and rubbed down with pumice powder when dry to achieve a "flat" surface.

One of the photographs shows the model afloat in the sea. She has done most of her running in the sea and has travelled further than her prototypes, as much of her "sea time" was put in in Australian waters near Melbourne, and I do not think any of the *Arethusa* class reached as far as Australia.

At present, inspired by the excellent work of Mr. Norman Ough, Mr. Glossop and others, I am reconstructing the model with the eventual idea of installing radio control. When sailing on a lake, it is very convenient to be able to bring the model back to her starting point and, in addition, the use of radio control makes the sailing of any model much more realistic and enjoyable.

In the meantime the work of rebuilding is presenting many interesting little problems, particularly in the effort to achieve a detailed scale effect and to be at the same time sufficiently robust for a working model.

The characteristic long slender lines of the prototype are well shown in this photo of the model



Modelling a.. 50 GUN SHIP

On the establishment proposed in 1733

Instalment no. 11.

By R. J. COLLINS

WE must now consider making the masts, yards, tops, several hundred blocks of many shapes and sizes, and a hundred yards or more of different thicknesses of rope. But if you have reached as far as this, none of this will frighten you.

I leave to the modeller the order in which the assembly takes place, but do as much as possible away from the hull. The blocks should be stropped to the yards before the yards are fitted to the masts. The parrels must be made up and the yards secured to the masts before the masts are stepped. The masts themselves have to be built complete with trestle-trees and cross-trees. Then step the lower masts, put on the shrouds, rattle them down, and put on the stays, the mouse for the stay being built on beforehand. Blocks on the stay are put on as soon as the stay is in position. Then the tops, each completely made and furnished with dead-eyes and whatever blocks are necessary slung beneath. There is quite a strain on these top dead-eyes, so after the futtock shrouds are tied down I pin the tops to the trestle-trees with pins right through, turning back the protruding end into an eye-bolt. Some of these will be needed, but even if they are not they do not look out of place.

With the tops on, put in the top-mast, I use a metal fid instead of a wooden one to hold the heel to the trestle-trees. Here again the yards were "parrelled on" before the mast was set. Then shrouds, ratlines, stays, and so on with the top-gallant.

In the case of the running rigging the only advice I can give is, as far as possible, to start inside and work out.

I have not given a sketch of a rope making machine as I imagine every model maker has one—or most certainly should. The only thing I do mention on this subject is that mine has four hooks instead of three, and so gives me another type of rope. I use ordinary cotton, black for standing rigging and fawn for running, and I treat each thread, *before being made up*, with beeswax. This treatment will stiffen the ends for threading through small blocks, it will also prevent whiskers showing on the made-up rope. I touch the ends of heavier ropes with balsa cement to make easier the threading and also to prevent unravelling. All knots are touched with a small spot of gum but make sure that you have quite finished with them before they are treated. There are no belaying

(*Continued from January issue page* 34)

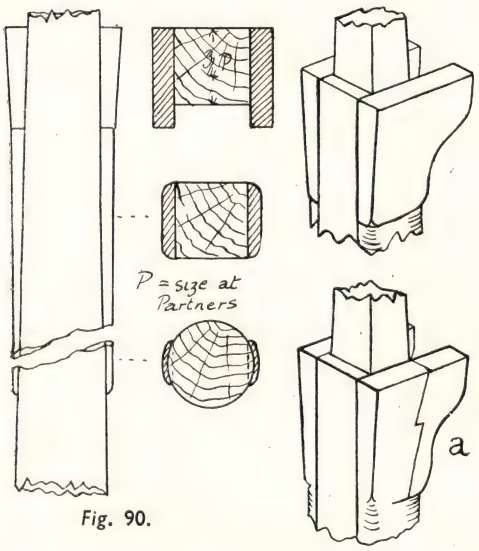


Fig. 90.

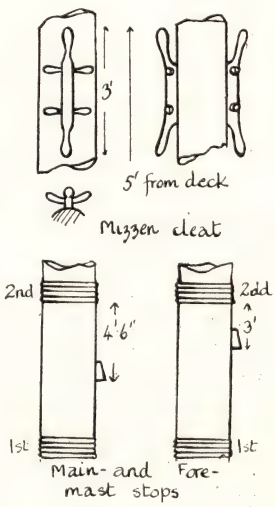


Fig. 91.

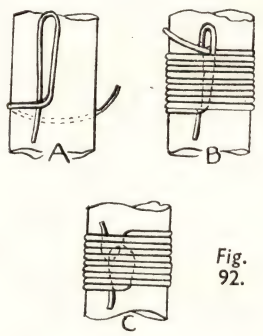
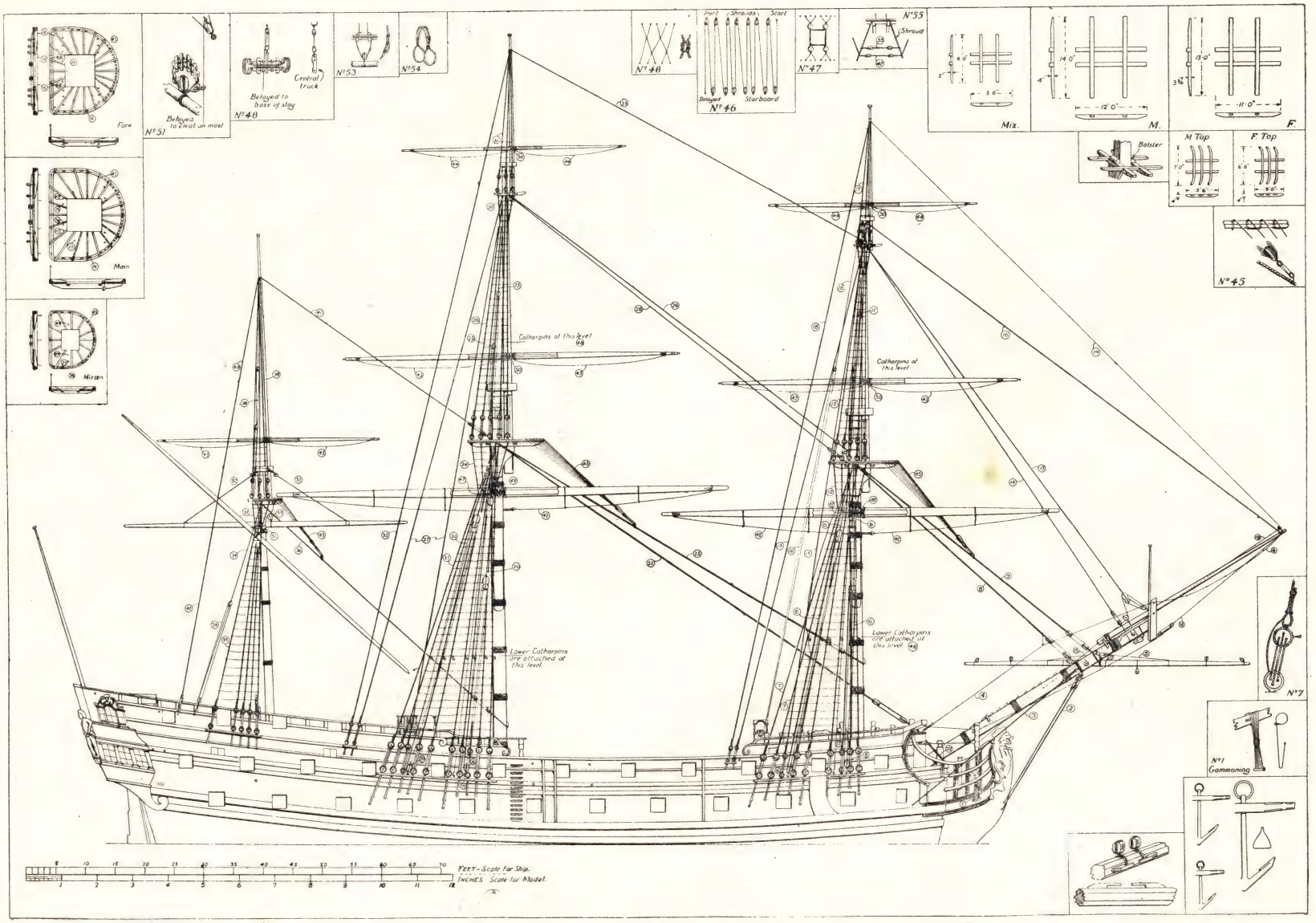


Fig. 92.

Fig. 90. *Cheeks and hounds on lower mast*

Fig. 91. *Cleat and stops on masts*

Fig. 92: *Details of woolding*



Standing rigging for 50 *gun ship of* 1733. *Key for items of rigging will be published next month*

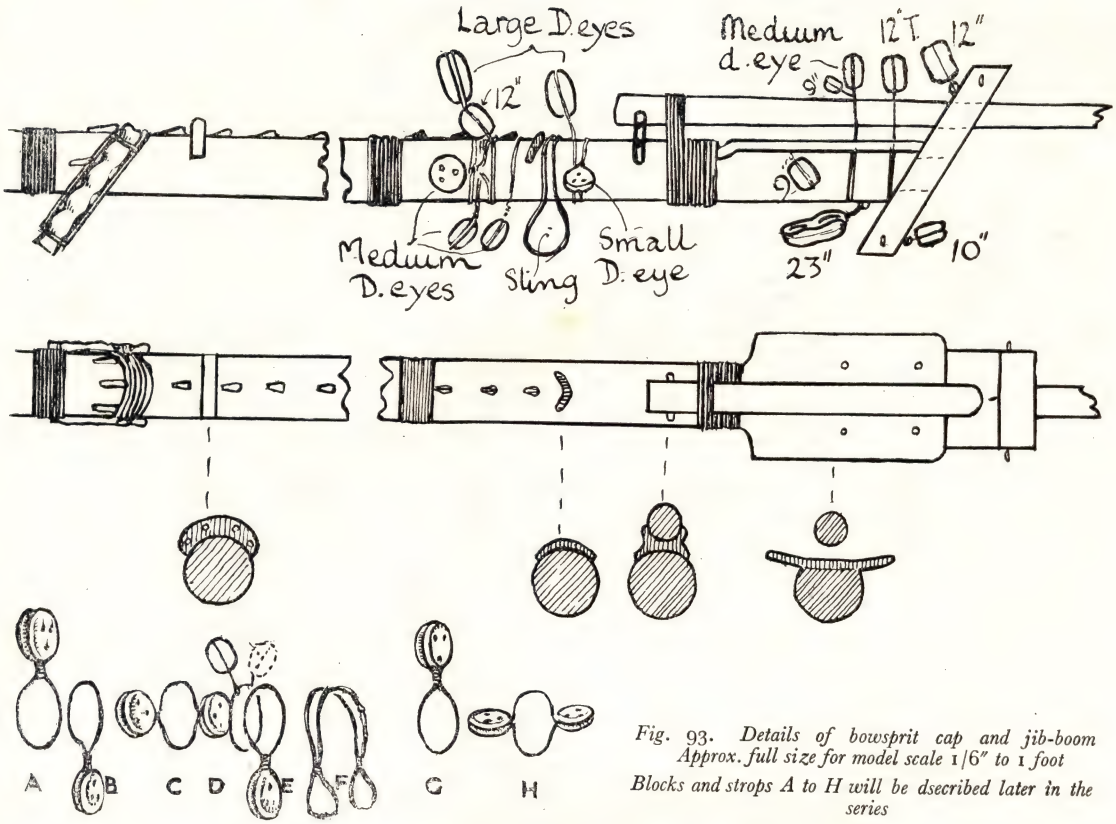


Fig. 93. Details of bowsprit cap and jib-boom Approx. full size for model scale 1/6" to 1 foot
Blocks and strops A to H will be dsecribed later in the series

pins in this model, the ropes being belayed to the rails or to the shrouds. Whether this was the case in the real ship I don't know, somehow I hardly think so, but I have not yet seen an old model with anything like a sufficiency of pins. Small coils of correct size rope can be made up and attached to the belaying point to look like the slack.

I have gone somewhat past myself in these preliminary remarks so now back to work.

Masts : The lower masts are tapered in a different fashion from the other masts. Actually the line of the side of a mast is an arc of a circle, with the thickest part at the partners. In this ship the partners are at the level of the main deck In actual practice a mast was built up of a number of pieces, but for modelling, except for a very small scale where they can be ignored only the cheeks or strengthening pieces are made separately.

Square the mast to the correct taper, then from the position where the bottom of the cheeks will be, (given later) plane down two sides until they are equal to the square at base of the masthead. Shape the mast with a small plane, file and scrape and finally paper smooth, to the sections as shown in Fig. 90. Cut the long wedge-shaped cheeks and peg on. These may have been concave on the real masts but it is easier to make the joining surface flat. The hounds can be made separately and placed above the cheeks or incorporated and the bibs fitted in afterwards. Fig. 90a. The best wood to use is undoubtedly lance wood although any straight grained wood can be made to do, but fight shy of too obvious a grain.

" Stops " are bolted to the forward side of the fore and main mast to hold the stay collars in place. See Fig. 91 which also shows the mizzen cleat.

Situated at various places on the lower masts and bowsprit are bands of rope known as woolding. These were wound very tightly around the mast to bind it together and to add strength. In this ship they were all composed of $2\frac{1}{2}$ in. tarred rope. Above and below each band of woolding should be a wooden hoop but this is so rarely found on the dock-yard models that I think there is an excuse for leaving it off. If it is to be put on it can best be made of a thin strip of gummed paper, wound around to be as thick as the rope and no wider than two ropes. It should be painted black. In Fig. 92, I show a way of putting on the woolding and hiding the ends of the rope.

Starting with the bowsprit, this is 54 ft. long by 2 ft. 3 in. diameter at its widest where it enters the ship. There are four bands of woolding, each of twelve turns. The first is six feet from the cap, the second, third and fourth spaced ten feet apart

(centre to centre). The jib-boom is 37 ft. long by 11¼ in. at the cap, which cap is 10 ft. 6 in. from the heel. The cap is perpendicular, with the top and bottom cut away to the angle of the bowsprit, measurement : 7 ft. overall in length by 3 ft. by 1 ft. The seat at the end of the jib-boom is at right angles to the bowsprit. A detailed drawing is given, Fig. 93, and I have put in all the blocks with their sizes to save room. The making of these blocks will be discussed at length later. On the starboard side of the cap are two heavy staple bolts which hold the jack-staff, 15 ft. 6 in. long by 3¾ in. at the base.

As I do not know what has been done below the lower deck I give the length of the masts as from the main deck.

Foremast 63 ft. above the main deck and 2 ft. 4 in. diameter at the partners. The cheeks start 34 ft.

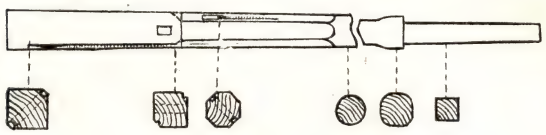


Fig. 94. Fore and main topmasts

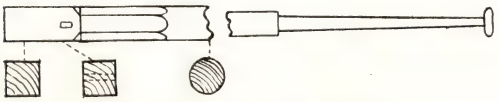


Fig. 95. Mizzen topmast

Model with lower deck and main deck beams in position and planking complete up to rails

from the top and are 19 ft. long. On top of the cheeks are the hounds 5 ft. high by 3 ft. 6 in. at their widest and 6 in. thick. I have been unable to check this last figure but I think it is about correct. For the woolding, fifteen turns for the bottom one and twelve for the others. The third band from the bottom starts 1 ft. 6 in. above the bottom of the cheeks, Nos. 1 and 2 are evenly spaced between this and the fo'c'sle deck. No. 6 just below the hounds and Nos. 4 and 5 evenly spaced between this and No. 3.

The main mast is 68 ft. from the main deck by 2 ft. 5 in. diameter at the partners. The cheeks start at 39 ft. 6 in. from the top of the mast and are 23 ft. long. The hounds are 5 ft. 6 in. long by 3 ft. 9 in. at their widest and about 7 in. thick. The first band of the woolding (fifteen turns) is just below the level of the quarter deck, No. 4 1 ft. 6 in. above the bottom of the cheeks, Nos. 2 and 3 evenly spaced between them. No. 7 just below the hounds and Nos. 5 and 6 evenly spaced between them.

The mizzen mast is 54 ft. above the main deck by 1 ft. 6in. at the partners. The cheeks commence 24 ft. 6 in. from the top and are 14 ft. long. The hounds are 4 ft. by 2 ft. 8 in. at their widest. The woolding is of ten turns, No. 2 is about a foot above the commencement of the cheeks, No. 1 midway between this and the deck, No. 4 just below the hounds and No. 3 midway between this and No. 2. A multiple cleat is bolted on either side of the base of the mast (see Fig. 91).

Above the lower masts are the topmasts. The heels are square for a short distance, the mast then becomes eight sided and finally round, there is a straight taper to what would be three quarters at the trestle-trees. The head, still carrying the same taper is of square section inside the circle. Near the trestle-trees there is a thickening of the mast to serve the purpose of the hounds. A fid hole is cut athwartships through the square heel and two sheaves, to take the top ropes are placed diagonally, one above the other, some distance either side of the fid hole. Details are shown in Fig. 94.

Treating each individual topmast : Fore topmast 47 ft. long by 1 ft. 4¼ in. at the heel. The square section extends 6 ft. and the eight sided part another 6 ft. Fid hole, about 6 in. by 3 in., 5 ft. 6 in. from the bottom. The bottom sheave 9 in. from the heel with its front on the starboard side, a groove running the full length of the square to take the top rope. The top sheave 1 ft. 6 in. above the fid, also with a short groove. Mast head 5 ft.

The main topmast 53 ft. 4 in. long by 1 ft. 6 in. at the heel. Square section 6 ft. and the eight sided 7 ft. 6 in. long. Fid hole 5 ft. 6 in. from the bottom. Sheaves as for fore mast. Mast head 5 ft. 8 in. long.

The mizzen topmast differs from the others in not carrying a top-gallant. There is therefore no place for the trestle-trees and no mast top. Its length overall is 47 ft. 6 in. by 1 ft. 4 in. at the heel. The square section 2 ft. 6 in. and the eight sided 3 ft. 6 in. long. The fid hole is 2 ft. from the bottom. Sheaves as for the others are fitted but no top ropes are rigged. 7 ft. 6 in. from the top the mast suddenly contracts to 5 in. diameter and tapers to 3 in. at the top. Fig. 95.

(*To be continued*)

RADIO CONTROL NOTES

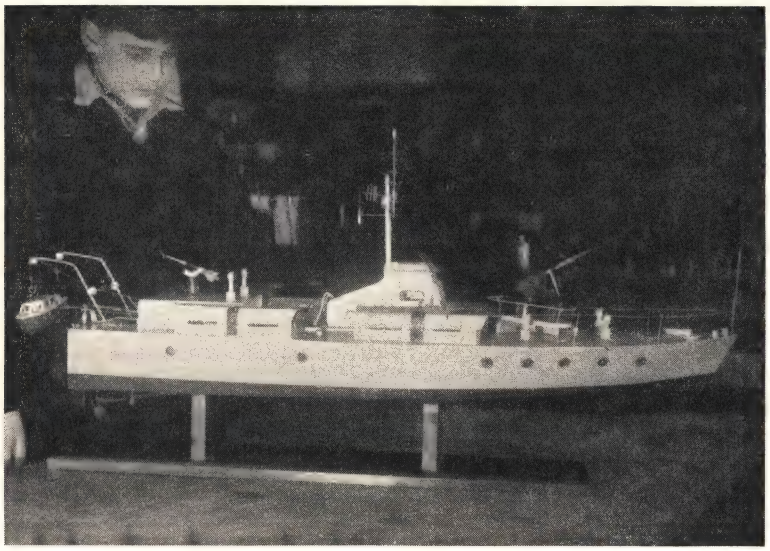
A series of articles for the modeller with an interest in remote control of his craft

By G. SOMMERHOFF

PRIDE of place this month goes to reader R. Sanders of Abingdon (Berks) for the ingenious circuit which he designed and which is shown in Fig. 1. For one of his radio controlled cabin cruisers Mr. Sanders required a control system in which short signal pulses would actuate one escapement and long pulses would actuate another escapement without interfering with the first. The escapement E_r responds to short signals and the escapement E_m to long ones. In the first instance the former was used to move the rudder while the latter was used to control the ship's engine. In a later and more sophisticated version of the system, however, E_m was replaced by a selector which gave a choice of several control stations. At last summer's "Model Engineer" Exhibition some readers may have seen a smart little cruiser in which, amongst other things the captain could be made to salute. Well, Mr. Sanders writes, this was the basic circuit used.

The system functions as follows. When the transmitter is keyed the sensitive receiver relay drops out (as is usual in a standard hard-valve or soft-valve receiver). This causes relay Ry_1 to pull in and both the capacitors C_1 and C_2 begin to draw a charge from the 6 volt supply. C_1 charges up quickly but C_2 does so only slowly since its charging current is limited by the resistor R. When C_2 is charged to a certain point the relay Ry_2 pulls in (as C_2 now draws less current). This actuates Em and short-circuits Er. If, on the other hand, the signal ceases (and the receiver relay pulls in again) before C_2 has had time to charge to the point at which Ry_2 pulls in, then Ry_1 will drop out with C_1 still charged and this capacitor will now be discharged through the escapement E_r.

As this capacitor is an electrolytic one of 1,000 mfd. the discharge is sufficiently heavy to actuate the escapement in a strong and positive manner. It is thus seen that a short signal actuates E_r only, whereas a long one only affects E_m.



One of the writer's models which launches and dispatches a pinnace by radio control. The mechanism used will be described in our next issue

TWO IMPORTANT APPLICATIONS OF ELECTROLYTIC CAPACITORS

Mr. Sanders' system is particularly interesting because it illustrates the two most important uses which electrolytic capacitors have found in the radio control of models. The first use is that of delaying a relay ; the second is that of acting as a store of energy which can be used to actuate an escapement or ratchet motor. The first is probably familiar to the reader. Two types of delay are obtainable and these are illustrated in Fig. 2. Delays of the order of seconds result with high resistance relays of (say) 5,000 ohms and capacitors of the order of 100-200 mfd. in conjunction with voltages of the order of 30-50 volts.

The use of a capacitor as a store of energy for actuating an escapement may be less familiar to the reader. The writer believes that he was the first modeller to advocate it and he has consistently obtained very good results. At first sight only the disadvantage of this method of working escapements will be apparent to the reader : viz. the capacitor requires a certain time to re-charge before it can be used again, and therefore the rate at which the escapement can be pulsed is strictly limited. Under certain circumstances, for instance, the escapement can only be pulsed once per second. But this apparent disadvantage is really the main virtue of the system, because it is precisely this time factor that makes new circuit techniques possible.

An example is given in Fig. 3. This was one of the writer's first applications of the principle of actuating escapements by means of capacitors. In this system a train of long signal pulses with short intervals turns escapement 2, whereas a train of short signal pulses with long intervals turns escapement 1.

The circuit operates as follows. Throughout the duration of a signal the receiver relay is " out "; C_1 discharges, but C_2 charges from the HT supply through the resistor R. In the absence of a signal, i.e. when the receiver relay is " in," C_1 charges while C_2 discharges. Now when either capacitor discharges through its associated escapement it will actuate that escapement provided it was charged to a sufficient extent. The time required for charging up to this point depends on R. Suppose the magnitude of R is such that C_1 and C_2 each require one second to charge up to this point, then it is clear that a train of signal pulses each of which exceeds one second will cause a sequence of discharges from C_2 through the escapement 2, each of which is strong enough to pull in this escapement. And if the intervals between these signal pulses are less than a second the discharges of C_1 through escapement 1 will throughout be too weak to pull it in. So that in this case only escapement 2 will turn. The converse happens when the train consists of signals of less than one second whose intervals exceed one second.

This simple arrangement was the basis of the control system used in the small M.T.B. whose twenty odd functions the writer demonstrated to H.R.H. the Duke of Edinburgh when the Duke opened " The Model Engineer " Exhibition of 1952.

SOME FURTHER NOTES ON ELECTROLYTIC CAPACITORS

In order to use electrolytic capacitors in circuits of this type to their best advantage it is important to know one or two of their main characteristics.

The reader will know that in general a capacitor consists of two long thin strips of metal foil which are separated by thin insulating material and tightly rolled or folded together. This arrangement increases many times over the capacity of the two strips of foil for holding electrical charges. For if one of the strips is charged with negative and the other with positive electricity the two charges will attract each other across the insulating layer and, as it were, hold each other in position. This capacity varies directly as the areas of the strips facing each other and inversely as the distance separating them. In an electrolytic capacitor an exceedingly high capacity results from an exceedingly thin layer of insulating material between the strips. For in this case the layer consists of no more than a microscopically thin non-conducting film which is formed electrochemically on the positive strip with the aid of a (conducting) layer of electrolytic paste between the strips. An electrolytic capacitor, therefore, has " polarity." That is to say, the one terminal must always be connected to the positive side of the circuit only and the other only to the negative side ; for otherwise the processes which lead to the film formation will be reversed or disrupted and the film

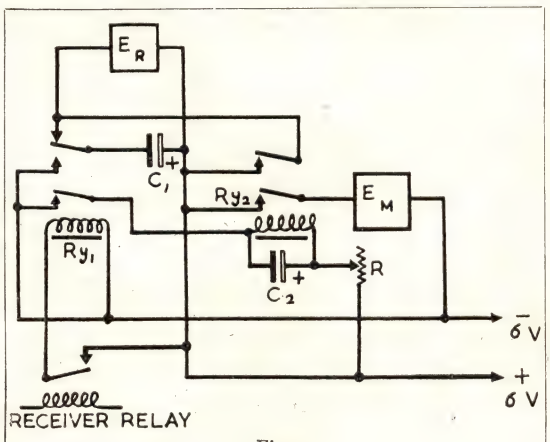


Fig. 1

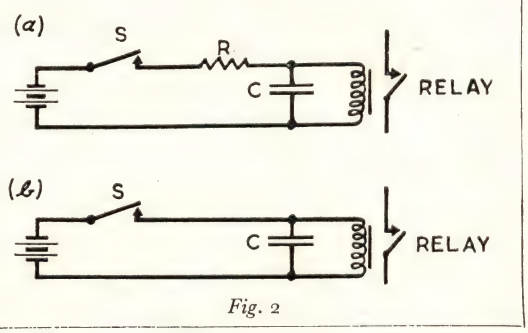


Fig. 2

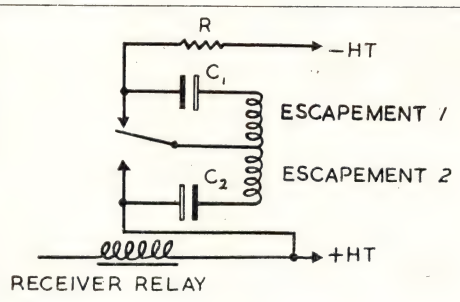


Fig. 3

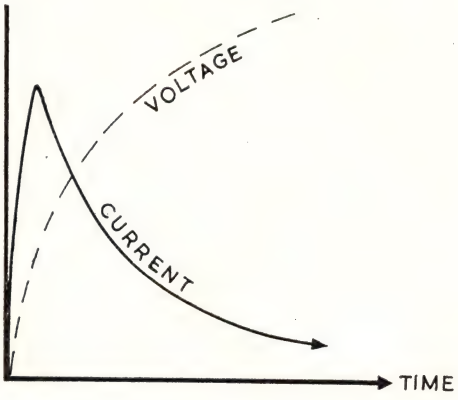


Fig. 4

will be partially destroyed. This polarity is always clearly marked on commercial capacitors. Another point to observe is that the d.c. voltage which an electrolytic capacitor can withstand is governed by the voltage at which the original film is applied. This voltage rating is marked on the capacitor and should never be exceeded for more than a few seconds. Both a reversal of polarity and an applied voltage which exceeds the rating, will cause the unit to draw an appreciable leakage current and will eventually lead to its destruction.

The energy of a charged capacitor is given (in joules) by the formula—

$$\text{energy} = \tfrac{1}{2}\ CV^2$$

where C is the capacitance in farads and V is the volts to which the capacitor has been charged. (Note that 1 farad is one million microfarads.)

When a capacitor is being charged, i.e. when a voltage is suddenly applied to a de-energised capacitor, the charging current and the voltage across the capacitor behave in the manner shown in Fig. 4. The stored energy of the capacitor, therefore, rises at first very rapidly and then gradually levels out. After the initial peak the current declines steadily, but in the case of electrolytic capacitors it never quite reaches zero. There always remains a slight leakage current. Any control system using electrolytic capacitors should, therefore, be so designed that when it is switched off this also applies to the voltage across these capacitors, for otherwise a steady slow drain of the batteries will result.

When using capacitors to actuate escapements, not only the capacitance and voltage are of importance but also the so-called " power factor " of the capacitor. This quantity indicates the power losses which take place inside the capacitor. Capacitors of different brands may therefore give different results. Indeed, the writer has had reports of disappointing results obtained by other modellers with one or two of the circuits he designed for capacitor operated escapements. In each case this was found to be due to different brands of capacitor used.

Readers will therefore be interested to know that he has obtained the best general results with B.E.C. type 71443 capacitors of 50 mfd., charged to something like 50-60 volts and used in conjunction with standard E.D. escapements. These give a very powerful action after only a short charging time, and with a limited charging current which will not tax unduly the model's H.T. supply.

SHIPS IN THE NEWS

By Laurence Dunn

Continued from page 87

much smaller, her gross tonnage being 7,599. Built in 1952 by the Forges et Chant. de la Mediterranee, La Seyne for the Compagnie de Nav. Mixte, Marseilles, she is designed for their fast passenger service to and from Algeria. She has a passenger capacity of 84 first, 4 special, 246 second, while a further 1,200 may be carried on deck.

As the photograph shows, the funnel, which is of the F.C.M.-Valensi patent type, is very slim and has a steeply curved top. As regards external appearance the superstructure of the ship is rather conventional, and would be well suited for an " engines amidships " layout. The midship portion of this structure is mostly enclosed and is dominated by a large bridge which has a sloping front. Although there are two hatches forward and one amidships, there are no kingposts ; instead inconspicuous electric cranes are fitted. There are two slender masts, the after one being stepped just ahead of the funnel. In this ship the forward bulkhead of the engine room comes exactly below a point midway between the first and second of the four main lifeboats which are carried on each side.

The high pressure La Mont boilers are placed aft of the turbines and one deck higher, the after bulkhead of the boiler room being just astern of the funnel.

news from the clubs

M.P.B.A.

This year for the first time, the M.P.B.A. has arranged a Regatta for radio-controlled boats. This will be held on Sunday June 20th, at Victoria Park, London, E.1. The Grand Regatta will be held at Victoria Park after the " M.E." Exhibition as usual, the date being Sunday, August 29th. Further particulars may be obtained from the Hon. Sec. J. H. BENSON, 25, St. John's Road, Sidcup, Kent.

THAMES SHIPLOVERS' AND MODEL MAKERS' SOCIETY

The shipmodellers' meeting on Jan. 15th, was concerned chiefly with a discussion on the prototype sailing models for the Annual Regatta at Hove. Films taken at the 1952 and 1953 regattas were shown and greatly appreciated. The Fifth Anniversary Meeting on Jan. 29th attracted a very large audience in spite of the wintry conditions outside. Capt. Hendaye, last year's chairman, installed Mr. Basil Lavis as the new chairman, after which the president, Alan J. Villiers, D.S.C., showed two films, one taken during the year he spent on Arab dhows and the other showing the Danish school ships in the Baltic. Both films were magnificent and, with the president's accompanying comments, held the audience enthralled for more than an hour. There followed the sale of a picture of a barque in a storm by Dr. Paul de Klodic, Port Captain of Trieste, the proceeds (more than £15) going toward the *Cutty Sark* Preservation Fund. The sale was by " Inch of Candle," a method which dates back to the time of Pepys. The March Modelmakers meeting will be held at the East Holborn Library on the 12th, at the usual time, when Mr. J. P. F. Jowitt will give an illustrated talk on " Some Historic British Paddle Steamers." The meeting at the Baltic Exchange will be held at 6.30 on Friday, March 26th, when Arthur Bennett (" A.B.") will speak on " The Lighter Side of Barging." Further particulars from H. V. EVANS, 134, Sunningfields Road, Hendon, London, N.W.4.

POOLE M.Y. & P.B. CLUB

June is going to be a busy month for the Poole Club. On June 5th, 6th and 7th (Whitsuntide) the Model Yachting Association " Marblehead " National Championship races will be held on their sailing water. For the following weekend, June 12th, and 13th, the Poole Club is organising a Radio Control Regatta. It is hoped that Radio Control Competitors will come down for the " National " races, and be able to put in some practice on the days between the two events.

A souvenir programme is being compiled covering the two separate events, and a brochure of the town of Poole will be sent to all competitors. The Poole club has an interesting programme for the R.C. weekend, and a large and varied entry is expected. We will announce fuller details in a future issue.

Further particulars and entry forms of the Marblehead Championship may be obtained from Mr. M. Fairbrother, 1221, Pershore Road, Stirchley, Birmingham 30, and of the Poole R.C. Regatta from Mr. W. L. Perrett, 46, Cranbrook Road, Parkstone, Dorset.

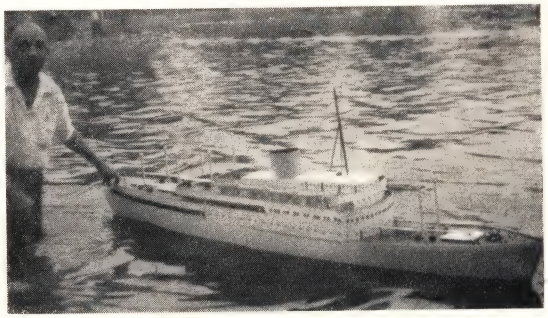
SOUTHEND-ON-SEA MODEL POWER BOAT CLUB

This club is all set for a busy season in 1954. The Southend Corporation has provided a hut adjacent to the lake for the storage of boats. A visitors' night will be held in March at the monthly meeting where models will be on show to the public. The Radio Control Section will be specially featured and demonstrations will be given.

Particulars may be obtained from the Hon. Secretary : F. G. MEARS, 5, Linden Court, Leigh-on-Sea, Essex.

THE GUILD OF MODEL SHIPWRIGHTS

The 24th meeting of the Guild of Model Shipwrights was held on Friday evening, January 8th, at the studio workshop of Mr. Norman Ough. There was, as usual, a good attendance. One new member, Major Britton of the U.S.A.F. was elected and several guests were present. After a general discussion, the debate on the question of overseas members wound up by the unanimous decision not to admit them unless they were known to the members personally. It was felt that admission to membership must continue to be by introduction only. In the case of a duly elected member moving to a residence overseas, he would still retain his membership, if so desiring, and automatically become an overseas corresponding member. The next meeting will be held on Friday, April 23rd, 1954 (St. George's Day). Hon. Sec. : LAURENCE A. PRITCHARD, M.I.N.A.



This fine craft, at present unnamed, is seen here with her owner Mr. D. Greenop of the Southend Club. The ship is of free-lance design and is powered by steam. (Photo: Pollard, Gravesend)

THE WEMBLEY SHIP MODEL SOCIETY

On March 9th Mr. M. E. Moon will give a talk on Tools and Methods of Metal working. On March 22nd Mr. P. R. Fairbairn will give a talk on Present Day Oil Tankers. Both meetings will be held at the Bonhomie Tennis Club, commencing at 7.45 p.m. Further particulars may be obtained from the Hon. Secretary : E. C. FREESTON, 41, Darvington Drive, Greenford, Middlesex.

IPSWICH NAUTICAL RESEARCH SOCIETY

The March meeting will be held on Wednesday, the 11th and will be a ship modellers' evening. This is an annual event which has proved most successful in the past. Members are invited to bring along their models for discussion.

Further particulars may be obtained from the Hon. Secretary: H. W. MOFFAT, 8, Parkside Avenue, Ipswich.

The Passing of the . . . .

ROYAL EAGLE

• BY A. E. WEIGHTMAN

"Royal Eagle" at Whitehall Creek, River Medway

IT is a great pity to see old friends depart and never to see them again, and the same feeling is present when a ship-lover sees some familiar and well-loved vessel brought to the end of her career. One such vessel, which has been one of the most popular on the River Thames, the *Royal Eagle*, has now made her last voyage. This was from Whitewall Creek on the River Medway to Messrs. Thomas Ward's, the shipbreakers at Grays. This fine vessel was built at Birkenhead by Messrs. Cammell Laird in 1932, a paddle-wheel vessel, of 794 tons net. When she was launched, instead of the customary bottle of champagne at the naming ceremony, a bottle of whisky was used, and it is said that this was the first occasion on which whisky had been used for such a purpose. She was built for the Margate-Ramsgate service, and the way she was fitted out made her very popular. Oil fuel was used throughout for cooking etc., and her dining rooms were capable of seating over 300 persons, whilst she could carry a total of 1,799. Her bridge was situated abaft the funnel for ease of navigation in the area above Greenwich when operating stern first. To assist further a bow rudder was another feature. Her owners were the General Steam Navigation Co. Ltd., founded in 1824. She made her first voyage in 1932 on May 14th, was present at the Spithead Naval Reviews of 1935 and 1937, and at the departure of the *Queen Mary* on her maiden voyage in 1936.

In the " tripper " season she was a most popular ship and thousands of people will be sorry to hear of her premature end. However, circumstances have forced on the company the decision to break her up. Not on account of her age, it might be added, but through the conditions governing the landing of excursion passengers in France. Currency restrictions and the need for a passport have killed the trips to the Continent, and cruises off the coast of France are not such attractive propositions as landing. As a result it meant that the screw propelled vessels had to be employed on the coastal runs to Clacton, Southend etc., and so the paddlers were out of a job and had to be laid up or sold. This has been the fate of the *Royal Eagle*.

At Whitewall Creek she lay amongst the broken bones of many barges and other miscellaneous craft, on a vast sea of mud awaiting her last, lone voyage to the breakers' yard. The once proud " butterfly " boat, but a shadow of her former self, the decks deserted, ventilators, lifebelt boxes, bridge equipment and other gear encased in torn and flapping folds of canvas lashed down with frayed and rotting ropes ; empty boat davits, empty store-rooms and cabins ; and the silence disturbed only by her watchmen or curious visitors. Her funnel was topped by a weather-worn, faded, green canvas cover which a dozen or so pigeons had made into a landing platform. A wisp of smoke curled up from the foc'sle bogey funnel, the only signs of human habitation, for it was here the watchmen had their abode. There were two of them, and one admitted to being 83 years old. Once upon a time he was a barge skipper and he had a wonderfully clear memory of years of barge and yacht sailing. He remembered when the creek where the *Royal Eagle* lay was full of bustle, and barges came in regularly, while smacks from Yarmouth came in with sprats for the local farmers. Nowadays all is desolation and decay, with rotting hulks, crumbling shore buildings and rotting vegetation. The tide laps gently on the mudbanks, or overflows across the marshland when the wind blows strongly. How strange it must have felt on the ship as she lay there, no thud and splash of engines and paddles, no sound of happy, excited voices, no music from the ship's public address system, and no sound of bells or orders from the ship's bridge. Her decks were swept regularly by the watchmen, but she had that unwashed, uncared for look ; the varnish and paint was peeling, and her hull was covered in green, slimy weeds up to the water line. Occasionally she took on some of her old sparkle when a burst of sunshine broke through

the grey mass of winter cloud or blazed in summer sunshine and reflected on her white paintwork and her rows of glass windows. Before she departed some of the teak wood rails had been cut out, leaving ugly gaps, no doubt at the request of souvenir hunters, and to refresh the memories of those who had travelled in her and loved her and who had a great regard for such a grand servant of the country in peace and war. And she has known war too! When the war broke out the *Royal Eagle* was taken over by the Admiralty as an anti-aircraft vessel, and her part in the evacuation of Dunkirk will go down in history like so many of the " little " ships. She made three trips to Dunkirk and was dive-bombed 43 times but she managed to bring back safely 3,000 troops. In her war experiences she had 52 actions against enemy aircraft and brought down two planes.

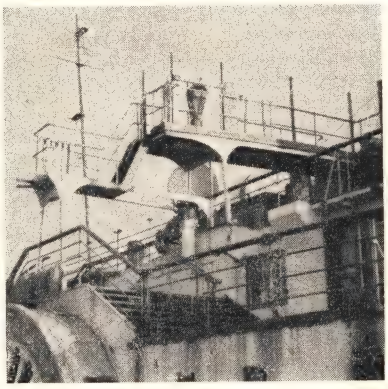
In the early part of December 1953 an attempt was made to move her from the bed she had made for herself but it was not successful. Then again on the next highest tide, on December 22nd, 1953, once more the ship showed signs of life, men clambered on board, the captain took his place on the bridge, though there were no joyful bells ringing down to the engine room, the shining massess of metal lay still and unresponsive, and there was no splashing roar of paddles thrashing the waters of the river, eager to sail again ; there were just a few bangs of the tow-ropes on the deck as they were made fast round the bitts, and the throb of the diesel tug as it struggled to free the ship as the tide rose. Once again a failure was recorded, she seemed reluctant to go, and tried to prove it by defying all attempts to tow her off.

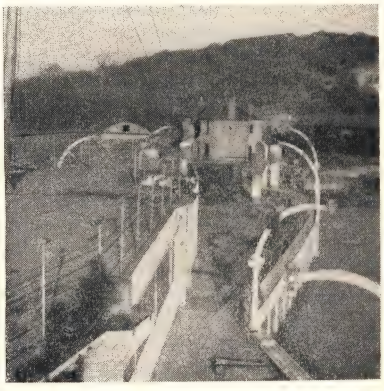
Then on January 7th, 1954, at high water, she resisted no longer and swept out into the river, being towed away by Knight's tugs to Chatham where she was to lay until the hour for her departure arrived. As the weather promised to be favourable it was decided to send her up on the very next day, and so on January 8th, 1954, she started out on her last lap. Tugs were made fast and her moorings were cast off. She moved off down the river towed by the *Kestrel*, commanded by Captain Pope, made fast for'ard and the *Keston*, under Captain Cornell, made fast aft. The crew on board the *Royal* Eagle were just three, Mr. Jack Feist, Mr. George Blackman and Mr. Harry Erb. She swung out into mid-stream a black, silent ship, and as the first flush of a rosy dawn was showing in the east she was gliding past Upnor Castle and the Training Ship *Arethusa*. A lazy spiral of smoke and steam came from the funnel of the *Kestrel* as they swept on past Cockham Woods and round into Gillingham Reach. At 08.30 in Long Reach the *Kent* under Captain Bailey came up and took over the good work from the *Keston* to continue assisting the *Kestrel* on the voyage. They carried the ebb-tide as far as Garrison Point which was reached at about 09.20, and when turning up into the Swatchway the wind began to freshen and the weather tended to become hazy. The *Kent* continued to assist as far as the Chapman Light where she cast off and returned to Queenborough, leaving the *Kestrel* to continue the voyage, towing alone until the Ovens Buoy was reached. On arrival at the Ovens Buoy the tug *Sun V* came on to the scene and took up a position on the starboard sponson, assisting the *Kestrel* to Grays where they waited until ready to berth. They passed Gravesend at 11.45, arrived at Grays just after 12.00, and berthed at Ward's top berth alongside the quay at 15.35. On berthing she gave one final, despairing protest at her treatment, as though annoyed to think that she was to be broken up at such an early stage in her life, and struck the quay heavily, damaging some of her rails. Almost before she had completed mooring up the breakers were on board.

On her way round there were no farewell blasts heard on ships' sirens as she passed along the busy rivers, she passed by vantage points unheralded, but it is hoped not unnoticed, and at her final destination not even a Press camera was seen and there was no reception committee other than the staff of Messrs Thos. Ward to greet the once proud Queen of the Thames.

By Saturday morning, January 9th, work on dismantling the ship began in earnest. A crowd of men were soon busy with their cutting implements and hammers, the burners were sending down showers of orange and red sparks, hissing and spluttering, over the already gaping wounds in her sponson, as the blue-green oxy-acetylene flames bit into the metal ; a crane moved up and down its length of rail with a clatter, lifting piece after piece of metal and dropping each one on to the growing pile on the muddy quayside.

And so, on this dull, grey, damp and cold day in January, 1954, the once proud unit of a famous fleet, the *Royal Eagle*, ended her nautical career.





Centre. The bridge structure and part of paddle box

Right: Looking aft. Note rails cut for souvenirs

FLAGS, FUNNELS AND HULL COLOURS

By Colin Stewart (Extra Master) published by Adlard Coles Ltd., Southampton. Cloth boards, 6s. *nett.*

This is still another book of the Ross Ship Series, and is probably the most compact, convenient, and complete book yet produced on this very fascinating subject. The introduction is followed by an informative chapter on house flags with a chart showing the development of a typical house flag. Then follows an alphabetical list of the companies represented, which include over 300 from Britain, the Commonwealth and the United States, and 124 from foreign countries. An unusual feature is the hull colouring which is especially useful to the model-maker. The colours of the superstructure, boats and even flagpoles are indicated. The actual colours may not, in every case, be of the exact shade as the original, owing to the limitations of the four-colour line blocks, but the basic colours are represented. A page of 35 National Flags is also included. The layout of the book is very convenient for easy reference, an added convenience being the list of the companies concerned which is printed opposite to each coloured page. This is an indispensable book for the ship modeller, the marine artist and for anyone interested in ships, and we can recommend it with every confidence.

★ ★ ★

WEST COAST STEAMERS

By C. L. D. Duckworth and G. E. Langmuir published by T. Stephenson & Sons Ltd., Prescot, Lancashire. 25s. *nett.*

This is the fifth of the excellent series of books on British Cross-Channel and Coastal Passenger Steamers produced by these authors. Unfortunately it will be the last, owing to the untimely and sudden death of Mr. Duckworth, which occurred shortly before publication of this, their latest book. The book will have a strong appeal to the multitudes who know the west coast, either as residents or as visitors. The handsome ships of the Isle of Man Steam Packet Co. Ltd., are known and loved by countless thousands of North Country people. One of the writer's early memories is of walking around the docks at Barrow during the winter months, and admiring the lovely proportions of the then new turbine steamer *Viking*, which was laid up there, and comparing her with the liners *Campania* and *Lucania* which were the pride of the Cunard fleet at that time. It is interesting to know that the Saloon staircase of the Master Mariner's headquarter's ship *Wellington* originally came from the Manx Steamer *Snaefell*. The steamers of P. & A. Campbell Ltd., which operate in the Bristol and English Channels, are equally well known and admired, and their white funnels and well-kept appearance give an added charm to the West Country coastline. The Mersey ferries are a part of the very existence of the Liverpudlian, and are known all the world over for their excellent services. The story of these, and in fact of all the West Coast services, is told in the book, and makes fascinating reading. There are excellent half-tone illustrations of over 50 of the ships referred to, some of them being of considerable historical interest. The Fleet Lists cover 66 pages and include practically all the ships used in the various services during the past 150 years. Ample particulars of each ship are given, and thus the lists will be a valuable source of reference to all interested. An excellent index concludes the book, which will be a welcome addition to any shiplover's library.

★ ★ ★

A Steel Barque—late 19th, century, one of a set of drawings by E. W. Petrejus published by "De Esch" Ltd., Holland

MASTER IN SAIL

By Captain J. S. Learmont, published by Percival Marshall & Co. Ltd., 19-20, Noel Street, London, W.1. Illustrated, 12s. 6d. *nett.*

We welcomed this book when it first appeared nearly four years ago, and considered it one of the finest accounts of the career of a sailing ship master we had ever read. The book was very well received and the first edition is completely sold out. Practically the only criticism the book received in its reviews was that it should have contained pictures of some of the ships, and especially a portrait of the author. In the second edition, which is now ready, these criticisms have been met, and the book now contains a fine photograph of the author, photos of some of the ships referred to, and reproductions of a number of wash drawings illustrating various incidents in the author's career. The picture of the 4m barque *Bengairn* which forms part of the dust cover and was universally admired in the first edition, has been used inside as the frontispiece. This and the wash drawings are the work of John Grier, who sailed for some years with the author, and who has an intimate knowledge of ships and the sea. In addition he has the artist's touch, and his paintings are a real asset to the book. End-papers, showing a chart of Captain Learmont's three record passages, have also been added.

The author learnt his craft the hard way, going to sea before he was twelve years of age, and serving in coasting schooners. He went " deep water " at fifteen and worked his way up from ordinary seaman until, at the age of 20, he was second mate. By the time he was 26 he was master of his own ship bound round the Horn for Valparaiso.

This is a grand book, and in its new form, and at its old price, is a real bargain for the lover of ships and the sea.

★ ★ ★

SHIP MODEL BUILDING

By Gene Johnson, published by the Cornell Maritime Press, Cambridge, Maryland, U.S.A. $3.50.

When this book was first published in 1943 it quickly made a name for itself in the U.S. as a most complete exposition of the art of ship modelling. In the new edition the addenda includes useful information about fishermen's and whalers' gear, details of modern armament for models of naval ships, and radar and radio antennae to suit the most up-to-date modeller's requirements. The book contains a wealth of information and more than 850 diagrams in line. The general scheme is excellent, the innumerable details being assembled in appropriate groups with the text and illustrations on facing pages. In most cases useful hints for modelling are also included. The rigging diagrams and details for square riggers are particularly well done. Some of the half-tone reproductions of models are not so good, that of the clipper *Flying Cloud* on page 159 being little more than a silhouette of the white sails on a black background. However, the close-up photos of the U.S.S. battleship *Missouri* and the light cruisers *Atlantic* and *Junean* are much better, and include a wealth of useful detail.

The large sheet of working drawings included with the book contains drawings for a clipper ship hull, a Gloucester fishing schooner, a " dragger " which is a sloop rigged fishing boat, and a harbour tug. The book is, perhaps, more suitable for the beginner in ship modelling, but whereas many books of this type are carelessly done and often mislead the modeller, this one will put him well and truly on the right track.

★ ★ ★

THE SHEET ANCHOR

Published by the Wembley Ship Model Society.

This is No. 3 of this very promising magazine, and the final number of the first volume. We are informed that No. 4 will be published in March, after which it will settle down to its planned routine of three issues per year. Laurence A. Pritchard contributes a well illustrated article on Cant Frames in Wood Ships, which will be read with interest and profit by those interested in old ships. Norman Ough contributes a very interesting article on the problems involved in obtaining model making information on naval vessels. This is illustrated by a reproduction of his drawing of H.M.S. *Dido*, which was first published in our magazine for February, 1953. Mr. S. Wurr continues his valuable series on the hull construction of the Thames sailing barge *Redoubtable*. This is well illustrated and is first-class information for both the ship historian and the model maker. " Jason " concludes his report of the ship models at last year's "M.E." Exhibition, Lt. Comdr. Richards describes a useful jig for making gratings, and the issue concludes with book reviews, correspondence, and the usual features. Altogether a very good issue, and one which will be appreciated by the ship modeller. Copies of the magazine and further information may be obtained from the Hon. Editor, W. O. B. Majer, 81, Paxford Road, North Wembley, Middlesex.

★ ★ ★

MODELS AND MODEL MAKING

Written and illustrated by T. Carrington Birch. Published by Perry Colour Books Ltd., 11, Buckingham Street, Adelphi, London, W.C.2. 2s. 6d.

This is one of the well-known " Do You Know " series of books, and, as an attractive introduction to model making, could hardly be bettered. The coloured illustrations would inspire anyone to " have a go." The methods advocated are simple and practical, the illustrations almost self-explanatory, and the standard aimed at is suitable for the beginner. A good proportion of the book is devoted to ship modelling, the types described including waterline models of liners, model yachts, a cabin cruiser and a destroyer. The making of model locomotives and railways and of model aeroplanes is also dealt with, so that the book will have a wide appeal.

Ships and Ship Models Mailboat

● **Letters of general interest on maritime matters are welcomed. A nom-de-plume may be used if desired, but the name and address of the sender must accompany the letter. The Editor does not accept responsibility for the views expressed by correspondence**

FRIDA OF MARSTAL

IN the year 1903, over fifty years ago, the tiny Danish seaport of Marstal could boast of an imposing fleet of nearly four hundred sailing vessels of all types and rigs, and these ships roamed far and wide. Today the port is left with only two three-masted auxiliary schooners, and these are the last relics of the days of sail in the port which was once known as Sailing Ship Town.

The two schooners are named *Pax* and *Frida*, and the latter is the subject of both this article and its illustration. *Frida* is a sturdy oak-built schooner of 308 tons and is one of the largest of the auxiliary three-masters still trading. She was launched at Korsor, Denmark in 1919, and her whole career has been spent under the ownership of Herr Kromann of Marstal. She was originally rigged as a topsail schooner and was not fitted with the topgallant yard, so common in Danish schooners in the old days.

Frida spent most of her long life in the Canadian trade from Miramichi to small ports in Ireland, and her passages were remarkably free from mishap. Here are some of her trips during the year 1936.

Marstal to Cadiz in 26 days. Cadiz to Shippegan in 41 days. Pictou to Newry in 32 days. Newry to Miramichi in 43 days.

These sailings are not exactly dashing clipper passages but they are steady and consistent and they do the old girl credit. An auxiliary motor was installed in the early thirties, but it was not a success, so it was soon sent ashore and *Frida* reverted to wind and canvas. This also happened with the West Country topsail schooner *Katie* around the same time.

Frida also made many passages in the Scandinavian timber trade and she often turned up in many of our smaller seaports. In 1939, she was engaged in the Canadian trade and on her return to her home port she was again fitted with an auxiliary motor. This time, the installation was more successful, and she had her topsail yards finally sent down. Now equipped with an engine of 174 horsepower, she usually trades to the Faroe Islands with occasional passages to Canada and the Mediterranean countries. Some years ago, she sprang a serious leak in the North Sea and a trawler took her into Lerwick for repairs; she has had several mishaps since her engine was fitted. However, the old schooner is still sailing around under Kromann ownership and long may she continue to do so.

Falkirk. JOHN ANDERSON

MODERN SCOTTISH FISHING BOATS

I was interested in the letter from J. Barrie in the January issue with his reminiscences of Sail and Power in Arbroath. I pass through the old town from time to time on my visits to friends further north, and, whereas in Montrose the fishing industry has dwindled considerably, in Arbroath it seems to be more prosperous than ever. The Government M.F.V. type of hull seems to be very popular, and a considerable number of such vessels are operating from the port. The photograph shows a typical example, and fine looking ships they are. With their handsome sheer, broad beam and modern looking stern, they should be good sea boats and well suited for the heavy seas often encountered in their work. The

owners have formed the Arbroath Fishermen's Association, and seem to work on a co-operative basis. They have their own tankers (road not ship) and I have often seen them re-fuelling the boats as they lie at the quay. I imagine the engine overhauls and general repairs and upkeep are conducted on the same basis.

Northampton. J. JOHNSTONE

MISSING SHIP MODELS

First let me say how happy I am to have our old friend, SHIPS AND SHIP MODELS in circulation again. . .

I have a small " mystery " that I would like to solve, and I have been wondering whether, if it is possible through the medium of " Mailboat " and the goodness of our readers, to discover the present home of the very fine collection of sailing ship models and relics of the late Mr. Saxan Jefferies.

This truly wonderful collection of first-class models of all types of sailing vessels was housed in the basement of his business premises in Deansgate, Manchester. Before the war I was a frequent visitor to this private " museum " but recent efforts to discover the present home of his collection since his death have proved futile.

I would greatly appreciate any knowledge of the present whereabouts of his models, and perhaps be given the privilege and pleasure of viewing them again.

Once again, sincere best wishes to SHIPS AND SHIP MODELS.

Knutsford, Cheshire ALBERT BOOTH

COMMENTS ON OUR FIRST NUMBER

As an old reader of the pre-war SHIPS AND SHIP MODELS I welcome the return of an old friend. I still have in my possession every number of the old magazine.

Of the articles in the new edition I was particularly interested in that of the transport ferry ships of the Continental Line which I see regularly sailing in and out of the port of Preston. There are now three ships engaged in this service, the *Empire Doric*, *Empire Cedric* and the *Empire Gaelic*, which maintain six sailings each week in both directions between Preston and Larne. This service has become tremendously popular with shippers and a new ramp to enable two ships to be loaded simultaneously is at present under construction at Preston.

If possible I would like to see " Ships in the News " revived in the same style that it was in the pre-war " S. & S.M.", giving a list of ships launched, sold, wrecked or broken up, also changes of name, etc.

The article on " Window Cruising " by Alfred E. Weightman, was also of great interest to me, as on a recent visit to London I did the round of the shipping offices in the West End, and the City, and I was fascinated by the many superb ship models which are on exhibition in the windows.

Preston, Lancs. HARRY STEWART

WAS THIS A FIGUREHEAD?

In passing through Kelvedon some time ago, I noticed the figurehead shown in the photograph reproduced herewith. I was rather intrigued, and called in at the shop to see if I could get any information about it, but they had none. On closer examination there appeared to be no sign of it having been fixed to the stem-head of a ship : as a matter of fact, the base was embedded into the ground. The general style and attitude resembles that of a figurehead, but it may not be that at all. Has any reader any information that would throw some light on the matter ?

London, W.1 QUERIST

DECK FINISH FOR MODEL MTB

Your magazine, MODEL SHIPS AND POWER BOATS, now under the pre-war title SHIPS AND SHIP MODELS has been of considerable interest to me for several years now. I have always found interest, and a wealth of practical knowledge in " letters to the editor "—and have at last plucked up enough courage to write to you for advice, with the hope that I shall see a reply in your pages one day.

I am making a thirty six inch model of one of the larger class, MTB's ; fitted with a 2 c.c. diesel and radio controlled, which I hope to have finished and

" under way " within six weeks but am held up with regard to the deck finish.

This class of MTB has a wooden deck and for this I obtained an excellent piece of three ply, but how does one obtain a good waterproof finish that looks something like " scrubbed wood " but does not have the artificial gloss of clear varnish and does not show grubby fingermarks ?

H.M.S. *Daedalus* R. LARN

DRAWINGS OF WARSHIPS

In connection with the drawings of H.M.S. *Matebele* in the centre pages of this issue the following particulars of her war service might interest our readers.

At the outbreak of war H.M.S. *Matabele* was with the 6th destroyer flotilla of the Home Fleet at Scapa. She was involved in an attack on a U-boat on September 22nd, 1939, followed a month later by a raid on enemy shipping off Norway. Between April and June of 1940 she was twice attacked by aircraft during escort duties to and from Norway and in the autumn of 1940 with the Home Fleet took part in further raids on that coast. In November she was engaged in the search for the German battleship *Admiral Scheer*, and early next year in mine-laying operations off Norway, and in further raids until the end of 1941. Also in that year she was part of the escort for the battleship *King George* V, bringing back Lord Halifax (ambassador to U.S.A.) to the United Kingdom. On January 17th, 1942, H.M.S. *Matabele* was torpedoed and sunk by a German submarine in the Barents Sea, Arctic, while escorting a North Russian convoy. She sank almost immediately, only two ratings being saved by the minesweeper *Harrier*.

London, W.C.2. NORMAN A. OUGH

PADDLES v PROPELLERS

During the recent cold weather I thought I would pass an evening away by browsing through some back numbers of MODEL SHIPS AND POWER BOATS. During the perusal I came to the September, 1951 issue with an article under the title " Model Power Boat Topics," by E. T. Westbury. In a column headed " A Racing Paddle Boat," he cites the experiment conducted by Mr. Lines, of the Orpington Club. Now, having been retired for some years (health reasons) I have had plenty of time to experiment with model paddles, fixed floats, with very varied results. There are so many " snags," but I can fairly well give some of them. Apart from the fact that fixed floats lift water and absorb power, the chief reason for loss of power is that water is thrown against the rear of the paddle box, thereby preventing a clear flow or jet astern, this can be proved by cutting away the paddle box aft, and observing the result. It is also absolutely necessary for the float to be correctly immersed.

Paddles must be on the large side, scale size do not give results. There must not be too many floats, six is about right. The reason is the slip caused by lack of water, probably due to speed of rotation and lift. Recently, in your March, 1953, number, I suggested triangular floats, these were an improvement, but not entirely satisfactory. Last summer I tried an interesting test with one of our club members. He has a metre paddler, power electric, with the same dimensions as my own ship, and the same power. In his case, he fitted carefully made feathering wheels. The two ships were coupled stern to stern, and sent full speed ahead, with the result that his boat towed mine all over the pool ! I then coupled my metre cargo boat, propeller driven, same power, to his paddler, result—I just won !

My conclusions are, therefore, that to get maximum efficiency it is necessary to use feathering floats. These give a positive power thrust, hardly lift any water, the boat can sit low in the water, and therefore steers better. If Mr. Lines is going forward with his experiment, I think he will have to fit feathering floats. Whether they will stand up to the very high speed demanded remains to be proved. *But I 'as me doubts* !

Leigh-on-Sea. F. G. MEARS

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Ships and Ship Models

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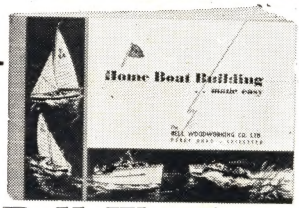

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